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THE TREATMENT OF EARLY SYPHILIS

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The treatment of early syphilis is now fixed on a firmer foundation than at any previous time in history. The standard method followed in the major clinics in this country was developed over a period of years of trial of diverse methods in many centers. Before this is discussed in detail, a brief review of the evolution of the subject of treatment will not be amiss.

Before the discovery of arsphenamine in 1910, mercury and potassium iodide were the chief weapons of defense and attack. These drugs accomplished results by aiding nature in building up its defenses to combat the invading infection. That they accomplished much there is no doubt, but that more efficient weapons were demanded is equally true.

Mercury was used by injection, by inunction and by mouth. For those of us who had some years of experience with these preparations alone, it is interesting to recall the numerous untoward effects that occurred. Even fatal results sometimes followed the employment of gray oil and the mercurous chloride by injection. These facts cause us to view similar happenings with the modern drugs with less criticism. On the other hand, we can also recall the good clinical results achieved, which sometimes were striking, in the late benign nodular and ulcerative cases.

Before 1905 the diagnosis depended entirely on clinical experience and the termination of treatment (if ever) also was predicated on the world experience of syphilologists.

The discovery of Spirochaeta pallida in 1905 made a positive diagnosis possible during the first few days of the existence of a lesion, which if untreated would in time develop into a clinically recognizable chancre. The elaboration of the Wassermann reaction some years later, together with precipitation tests, added other valuable means for the early detection of the disease. Its early recognition and institution of treatment was considered important, but less so than at present on account of the slower action of the drugs then employed. There were some dissenters, however, who believed that treatment should be delayed until the so-called secondary manifestations appeared. By this time there has been established a certain amount of immunity, which is of value in protecting the patient from some of the more severe ravages of the disease. Removal of this natural protection by early treatment with inadequate amounts of arsphenamine has often been followed by more serious developments that would probably have been avoided without such treatment. This natural immunity is further exemplified by the large number of cases of latent syphilis seen in every large clinic, in many of which the latency is permanent. This fact, however, does not relieve one of the responsibility of treating latent syphilis for several reasons. First, these patients are a menace to others to whom they may transmit the disease and, if of the female sex, may transmit the condition to their offspring. And, second, efficient treatment greatly reduces the chance of development of the more serious forms of the disease in the viscera and nervous system.

It might be thought that, could an efficient method of treatment of early syphilis be developed and carried out whereby the major portion of this class could be cured, the late and more serious effects would be eliminated; i. e., visceral and neurosyphilis would be avoided. This fortunate result cannot happen for the reason that the large latent class previously mentioned pass the early stage unnoticed. They have had either mild or no appreciable signs of the disease in its early stage and it was therefore not recognized, and this group will continue to furnish endless examples of the late stages.

In undertaking the treatment of early syphilis, one should bear in mind certain facts regarding its course. The natural tendency of the disease untreated is toward spontaneous cure. This is evidenced by the period of latency established by the production of immunizing substances, which hold the activity of the organisms in abeyance either temporarily or permanently. Interference with the establishment of this partial or complete immunity by inefficient treatment may advance the late serious developments in the central nervous system and viscera appreciably.

The development of immunity and the occurrence of spontaneous cure in a certain percentage of cases of untreated syphilis were admirably shown by Bruusgaard.[1] In the Oslo clinic where the standard treatment of the time, consisting of mercury and potassium iodide, was considered of little or no value, 2,181 patients with primary or so-called secondary syphilis passed through, between the years 1891 and 1910. Fifteen years later, Bruusgaard reexamined by modern methods 309 of this number and discovered the cause of death in 164 others, in forty of whom necropsies were performed.

In this group neurosyphilis developed in 9.5 per cent, cardiovascular syphilis in 12.8 per cent, benign late syphilis in 12.2 per cent, latent syphilis (no clinical signs, positive Wassermann reaction) in 14.1 per cent, spontaneous cure in 27.9 per cent, and death resulted from syphilis other than of the cardiovascular or central nervous system in 0.8 per cent and from other causes in 22.6 per cent. These reliable statistics reveal the interesting fact that more than 25 per cent of the

1. Bruusgaard, cited by Moore,[2] p. 23.

patients made a spontaneous recovery and that approximately 64 per cent were individually unharmed by the disease.

The treatment of latent, visceral and late benign syphilis, which includes the late lesions of the skin and osseous system and syphilis in pregnancy, is a major aspect of the syphilis problem but will not be fully discussed here. The development of an efficient method of treatment of early syphilis revolves around arsphenamine and bismuth compounds, which can best be brought out by some historical data.

Beginning in October 1910, my associates and I treated a group of cases with arsphenamine furnished by Dr. Simon Flexner of the Rockefeller Institute at the suggestion of Capt. H. J. Nichols of the U. S. Army. The results were recorded in THE JOURNAL in February 1911.[2] The drug was then given subcutaneously, and a single injection was expected to be sufficient to eradicate the disease. The injections were painful and not devoid of danger. Somewhat later the drug was administered by intramuscular injection as an emulsion in oil. This method was very efficient therapeutically but was not infrequently accompanied by untoward results both locally and constitutionally. Very shortly afterward the intravenous method of administration was developed and universally adopted. The hope that a single injection would be sufficient to eradicate the disorder was soon dissipated and, as time passed, the number of injections considered adequate has been greatly increased.

In our comparatively early work we found that administration of the drug in gradually ascending dosage was inefficient, but we still adhere to a small initial dose. We also determined that more efficient response was had by giving the first three injections during the first week rather than making a five or seven day interval from the beginning.

Experience soon revealed that arsphenamine alone was inadequate, so its use was combined with that of mercury, and this combined method of treatment was universally adopted. Bismuth appeared in about 1920 and its use and the development of new preparations was energetically prosecuted, especially by French investigators. In a comparatively short time its great value became evident, and its use supplanted to quite an extent that of mercury. Numerous valuable preparations of bismuth have been elaborated. They are divided into three groups: water soluble, oil soluble and insoluble. We have employed an insoluble salt from the beginning as a routine procedure.

When it became established that the combined use of these heavy metals was the best procedure, numerous plans were devised and tested. In the major portion the treatment was divided into courses, each consisting of a certain number of injections of arsphenamine followed by a given number of injections of mercury (early) or a bismuth compound (later). Such courses were separated by a period of rest. Such a plan was used in the extensive treatment required during the World War. Five courses were generally recommended during the first two years.

This method was widely used for some time until it became evident that numerous clinical and serologic relapses developed during the resting periods, which fact led to the continuous method now generally employed. Even with this method a moderate number of resistant cases are encountered, both clinically and serologically, but fortunately the number is small. The continuous method was first suggested and carried out in Europe by Almkvist [3] and in this country by Keidel,[4] though the latter employed this method several years before making the report. Much study, both experimental and clinical, has been made to determine the relative value of the various arsphenamines. I believe that arsphenamine is the treatment of choice, but its employment requires more time and skill in its administration, and untoward results are more likely to occur. Neoarsphenamine practically fulfils all the necessary requirements and its simplicity of preparation for injection and administration commends it to the average practitioner. Sulfarsphenamine proved to be toxic and is employed only when intravenous injections are not possible. Silver arsphenamine is very valuable, both clinically and serologically, but when given in large amounts is not unattended with danger (pigmentation). Spiegel [5] found that if a maximum dosage of 8 Gm. is not exceeded this deleterious effect may be avoided. Bismarsen is a combination of arsphenamine and bismuth and may be used in exceptional cases.

In this country it now is the consensus that eighteen months' continuous treatment is adequate to eradicate the disease in most instances. A minimum of twenty injections of arsphenamine is required in this period.

A rule that I have followed from the beginning requires an examination of the patient preliminary to the institution of treatment. This includes an examination of the heart, the eyes and the urine. A record of these observations becomes valuable for future reference as well as to detect contraindications for the use of arsphenamines.

With the efficient drugs available, treatment should be instituted at the earliest possible moment; i. e., when a diagnosis has been made either by the demonstration of Spirochaeta pallida or by a positive Wassermann reaction or definite clinical evidence. If started early before the natural defense mechanism has had time to function, the necessity of continuous vigorous treatment is imperative. By any of the modern schemes of treatment the Wassermann reaction becomes negative and all signs of the disease have disappeared by the end of the first course. If at this time a lapse of treatment occurs, either voluntarily or through some neglect by the patient himself, disastrous developments may occur such as neurorecurrences or other relapses, so that it is of the utmost importance that no interruption in the treatment be allowed under any circumstances. If the Wassermann reaction remains positive after the first period in spite of continuous treatment or if a Wassermann relapse occurs, examination of the spinal fluid is indicated.

A comprehensive study of the disease with results of various methods of treatment was carried out in this country under the direction of the U. S. Public Health Service and five cooperating university clinics.[6] The material studied included the records of 75,000 cases of syphilis, of which 3,244 were early cases. The observations in this survey are of the utmost importance and the recommendations for the management of the disease in all its phases and situations are worthy of adoption. These statistics reveal the fact that in early syphilis the continuous method of treatment

2. Ormsby, O. S.: A Group of Syphilitic Patients Treated with Salvarsan (Ehrlich-Hata 606), J. A. M. A. 56: 504 (Feb. 18) 1911.

3. Almkvist: Acta derm.-venereol. 1: 97, 1920.

4. Keidel, Albert, and Moore, J. E.: Bull. Johns Hopkins Hosp. 39: 1 (July) 1926.

5. Spiegel, Leo: A Discoloration of the Skin and Mucous Membranes Resembling Argyria Following the Use of Bismuth and Silver Arsphenamine, Arch. Dermat. & Syph. 23: 266 (Feb.) 1931, quoted by Becker, S. W., and Ritchie, E. B.: Argyria Following Excessive Use of Silver Arsphenamine, J. A. M. A. 97: 389 (Aug. 8) 1931.

6. Stokes, J. H., and others: Standard Treatment Procedure in Early Syphilis, J. A. M. A. 102: 1267 (April 21) 1934.

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achieved satisfactory end results in 79.7 per cent of cases, whereas similar results occurred in 65 per cent with the intermittent method (rest intervals).

A schematic outline of treatment published by Moore [7] in collaboration with the university group may be considered a standard method of treatment for early syphilis. This scheme calls for alternate periods of arsphenamine and bismuth compound for seventy weeks with no rest intervals. The total injections of arsphenamine are thirty-two and of bismuth thirty-eight. There are essentially five courses each of arsphenamine and bismuth. Each course of arsphenamine includes six weekly injections with the exception of the first, at which time eight are given, the first three of which are at intervals of five days. Each course of arsphenamine is followed by one of bismuth. The bismuth courses increase progressively, the number of injections in the respective courses being four in the first course, six in the second, eight in the third and ten each in the fourth and fifth.

Potassium iodide is given with the bismuth in the first series of injections. If mercurial ointment is substituted for bismuth, potassium iodide is given with it in each course. In seronegative primaries in which a positive Wassermann reaction does not develop, treatment may be suspended at the end of the fourth course. A spinal fluid examination is recommended at the end of the second course. During the year of observation after the cessation of treatment, several blood Wassermann examinations are made and at the end of the year a complete neurologic examination, including the spinal fluid, and complete physical examination with particular reference to the cardiovascular system. Thereafter there should be an annual physical examination together with a blood Wassermann test.

In the syphilis clinic of the Central Free Dispensary, where the work is carried out under the supervision of Dr. Skolnik, the continuous method of treatment has been in operation for six years. In this clinic neoarsphenamine is used and five courses are given, covering a period of twenty-seven months. Here the first three injections are given in the first week, then three at intervals of five days, then four combined injections of neoarsphenamine and bismuth at weekly intervals, this being followed by alternating series of bismuth and neoarsphenamine separately throughout the following courses. Using the bismuth early in the first course appears justifiable by the results obtained. It is interesting to note here that in Moore's scheme [8] published in his work on syphilis in 1933 he advised bismuth simultaneously with the first four doses of arsphenamine.

The object of using bismuth with the first few injections is to increase the natural defense forces, which have been held in abeyance by the arsphenamine.

A summary of the treatment in 124 cases of early syphilis in our dispensary clinic, furnished by Drs. Skolnik and Webster, showed one mucocutaneous relapse, eight serologic relapses and one neurorecurrence. The patient with the neurorecurrence received forty-one neoarsphenamine and seventy-five bismuth injections in thirty-three months. The Wassermann reaction of the spinal fluid at this time was positive. All other tests were negative.

There were eleven gastro-intestinal, one Jarisch-Herxheimer, six dermatitis (one of which was of fixed type) and three jaundice reactions. A complete report of the results of treatment in all its phases is in preparation and will be made soon.[9]

The treatment of early syphilis in pregnancy is that of the nonpregnant if instituted early; i. e., previous to the third to fifth month. This includes alternating courses of arsphenamine and bismuth without interruption. If instituted later, weekly injections of arsphenamine alone are recommended until the termination of pregnancy.

The treatment of early acquired syphilis in children is identical with that of adults, the dosage being modified to fit the weight. If the intravenous method is not practicable, sulfarsphenamine may be used by the intramuscular route.

The treatment of early syphilis in the elderly should be sufficiently energetic to protect from recurrences and the later more serious developments but does not require as large dosage of arsphenamine or the rigid adherence to the regimen suggested in younger patients for so long a period.

REACTIONS, LOCAL AND GENERAL, REQUIRING ATTENTION

Occasionally during an injection of arsphenamine pain is complained of extending up the arm to the shoulder. This is usually due to overalkalization of the drug and requires no further treatment than attention to this matter. Thrombosis, which is due to the same cause, may be avoided in a similar manner. General reactions are much more important.

The Jarisch-Herxheimer reaction does not cause serious damage in early syphilis but may do so in the later stages. This reaction is due to the rapid destruction of a large number of spirochetes and to the liberation and absorption of their proteins. A constitutional reaction consists in elevation of temperature preceded by a chill, malaise and general aching. Focal symptoms consist in increased activity in affected areas. An early eruption barely visible becomes marked. These symptoms soon subside and are of no particular moment. When, however, there is activity of the process in the larynx, heart or brain, serious accidents might occur through activation of lesions in these situations. To prevent this reaction in early cases, the first dose of arsphenamine should be small. In late cases treatment with arsphenamine, if used at all, should be preceded by courses of mercury, potassium iodide and bismuth.

Acid Arsphenamine.—If through error arsphenamine is given without being alkalized, serious results occur. If the full dose is injected, a fatal result occurs immediately. If during an injection a patient coughs, the injection should be stopped immediately and examination made of the arsphenamine to see if it has been properly prepared. If much of the drug is given there occurs severe coughing, oppression in the chest, pain in the back, pallor syncope, circulatory collapse and immediate death. To combat these symptoms, if there is time, epinephrine is given by subcutaneous injection and oxygen by inhalation, and the patient is kept warm in bed.

Ether Odor.—Occasionally during the injection the patient complains of smelling ether. This phenomenon occurs within a few seconds after the beginning of the injection. It is due to action on the nasal mucosa of the arsenic itself or of ether used in its manufacture. This is unimportant and requires no treatment.

7. Moore, J. E.: Ven. Dis. Inform. 10:53 (Feb. 20) 1929.
8. Moore, J. E.: The Modern Treatment of Syphilis, Springfield, Ill., Charles C. Thomas, Publisher, 1933, p. 201.
9. Skolnik, E. A., and Webster, J. R., to be published.

Gastro-Intestinal Reactions.—From 25 to 40 per cent of the patients receiving the arsphenamines have some gastro-intestinal reaction. This includes malaise, headache, nausea, vomiting and diarrhea, beginning from four to twelve hours after the injection. It lasts from a few hours to several days. It may be due to impure water, underalkalization of the arsphenamine, too rapid injection, dietary errors and constipation. When these conditions are corrected there is no reason why treatment should not be pursued with the arsphenamine.

Nitritoid Crisis.—This occurs during the injection and is expressed by a feeling of heat, palpitation, oppression in the chest, suffusion of the conjunctivae, flushing of the face, coughing, vomiting, sometimes diarrhea, pain in the back, and falling of the blood pressure. Edema may be severe and occur on the face, lips, tongue and glottis, as well as on the extremities. Urticaria may supervene, and pain in the gums and teeth may be present. A severe syncope sometimes happens and the pulse becomes thready. While the symptoms appear alarming they are not important, as they pass off in from fifteen minutes to an hour. This reaction is due to physical causes and not infrequently to the rapidity of the injection. It has been termed speed shock. Certain batches of the arsphenamine seem more prone to induce it than others. Treatment consists in the immediate injection of 10 drops of a 1:1,000 solution of epinephrine intramuscularly. If this reaction is recurrent, 5 minims (0.3 cc.) of epinephrine may be given before each injection. Stokes recommends ephedrine in the dosage of 50 mg. a day during the arsphenamine period and the administration of from 1/60 to 1/30 grain (1 to 2 mg.) of atropine before the injection.

Shock Reactions.—These occur from the injection itself and resemble surgical shock and are treated in the same manner. The condition comes on a few hours after the injection and the hypothesis is given that it is due to acute adrenal injury. Treatment consists in application of heat in bed and the slow administration of 2 or 3 liters of a 10 to 15 per cent dextrose solution or a similar amount of physiologic solution of sodium chloride. Epinephrine has no effect on this condition.

Cutaneous Eruptions.—Several of these are important. They include urticaria, various erythemas, herpes simplex and zoster, fixed eruptions, purpura and varying grades of dermatitis, including papular, papulovesicular, vesicular and exfoliative. Only those requiring special attention will be discussed. In the blood dyscrasias shown by purpura, further use of arsphenamine is contraindicated. The same is true in the sensitization type of exfoliative dermatitis. In this type even small doses given long after the dermatitis is cleared up will provoke a recurrence, as has been demonstrated by Moore and Robinson. Severe dermatitis exfoliativa sometimes follows one or more mild attacks of cutaneous disturbance, and it is therefore necessary to be on the alert and discover these mild reactions. In most instances, however, the severe attack develops without previous warning. The treatment of general exfoliative dermatitis with sodium thiosulfate, popularized in this country by McBride and Dennie,[10] is accepted as of value by most workers, a notable exception being Moore,[11] who after several years of experience found the drug of no value. In my own work I employ injections of dextrose recommended by Shaffer,[12] particularly those cases accompanied by edema, in conjunction with sodium thiosulfate. The drugs are given on alternate days, the sodium thiosulfate in the dosage of 1 Gm. and the dextrose in the dosage of 20 cc. of a 50 per cent solution.

Argyria from Silver Arsphenamine.—This drug is very efficient but is not devoid of danger. Spiegel found that a maximum of 8 Gm. is the limit of safety, and if this is observed pigmentation probably will not follow.

Polyneuritis.—Fortunately, these cases are rare. My personal experience consists in one example, and this ran a long continuous course with poor recovery.

Hemorrhagic Encephalitis.—This is a grave and, fortunately, rare complication. This condition develops ordinarily after the second, third or fourth injection. The symptoms begin two or three days after the last injection and consist of severe headache, nervousness, apprehension, apathy, mental confusion, convulsions, urinary and fecal incontinence, dilated pupils, cyanosis, the development of a comatose condition and death within twenty-four to forty-eight hours. Schamberg and Wright recommend the following treatment: With the patient remaining in bed a dorsal puncture is done, removing 50 cc. of fluid, and venesection, removing from 50 to 100 cc. of blood, followed by a purge, large doses of sodium bicarbonate, subcutaneous injections of 5 minims (0.3 cc.) of 1:1,000 solution of epinephrine every four hours and oxygen inhalations.

Postarsphenamine Jaundice.—This complication is not uncommon and it is variable as to degree, from a simple symptomless icterus to an acute fatal yellow atrophy. All grades between the two are seen. In this brief paper it is not possible to discuss the subject thoroughly. By different authorities its cause is attributed to three factors: (1) a toxic action of the drug on the liver cells, (2) syphilis and (3) an intercurrent epidemic disease. Moore is of the opinion, with others, that in the various cases a combination of all these factors is the correct hypothesis. The further use of arsphenamine is temporarily abandoned. The treatment of the liver symptoms is largely symptomatic; rest in bed and a bland soft diet, together with saline cathartics. Moore recommends daily injections of calcium gluconate and Schamberg and Brown recommend calcium thiosulfate. In early syphilis on the suspension of arsphenamine and the subsidence of acute symptoms, bismuth and potassium iodide are continued. Arsphenamine may be resumed several weeks after the icterus is cleared up. In the beginning the dosage should be small, 0.05 Gm. That some remote result may occur is possible, and O'Leary[13] has already recorded cirrhosis of the liver in such patients several years after the original attack of arsphenamine icterus.

SUMMARY AND CONCLUSIONS

With modern methods of treatment, early syphilis can be eradicated in the majority of cases.

Continuous treatment with no rest periods gives the best results.

Alternate courses of arsphenamine and bismuth are recommended covering a period of at least eighteen months and employing a minimum of twenty injections of old arsphenamine or its equivalent with other arsphenamines.

10. McBride, W. L., and Dennie, C. C.: Treatment of Arsphenamine Dermatitis and Certain Other Metallic Poisonings, Arch. Dermat. & Syph. 7:163 (Jan.) 1923.
11. Moore, J. E.: The Modern Treatment of Syphilis, p. 89.
12. Shaffer, L. W.: Treatment of Postarsphenamine Dermatitis, Arch. Dermat. & Syph. 29:173 (Feb.) 1934.
13. O'Leary, cited by Moore,[1] p. 102.

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The Wassermann reaction is usually reversed by the end of the first period and should remain so permanently. The early reversal of this reaction indicates proper progress of treatment, but by no means does it relieve the physician of carrying out the outlined schedule.

An adequate amount of arsphenamine is absolutely essential and nothing save intolerance, indicated in the body of this paper, should reduce this. A standardized method of treatment for large numbers of patients is justifiable for the reason that this early group includes chiefly young, otherwise healthy, patients who tolerate much treatment with safety, and also because it is at this time that such treatment offers the best chance for eradication of the disease.

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THE TREATMENT OF PERNICIOUS ANEMIA WITH AUTOLYZED LIVER CONCENTRATE

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In 1931 Reimann [1] noted that when fresh liver was digested in normal human gastric juice its antianemic potency in cases of pernicious anemia was enhanced. This was corroborated by Helmer, Fouts and Zerfas.[2] Walden and Clowes [3] reported a similar potentiation of liver and liver extract-Lilly (N. N. R.) when these were incubated with fresh hog gastric tissue. They found that the effectiveness of liver and liver extract was increased three to four fold and that this was appreciably greater than could be accounted for by the simple additive effect of the liver or liver extract and

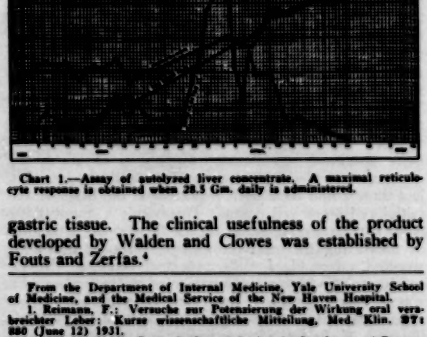

Chart 1.—Assay of autolyzed liver concentrate. A maximal reticulocyte response is obtained when 28.3 Gm. daily is administered.

gastric tissue. The clinical usefulness of the product developed by Walden and Clowes was established by Fouts and Zerfas.[4]

The idea that a similar enhancement of potency could be effected by simple autolysis of liver was suggested by Herron and McEllroy.[5] Following the administration of autolyzed liver and concentrates of the product

The Maintenance Treatment of Pernicious Anemia with Autolyzed Liver Concentrate, Compared in Most Instances with Other Forms of Therapy

Autolyzed Liver Concentrate							Control Treatment*			
Patient	Age	Daily Dose in Level Teaspoonfuls	Duration, Weeks	Red Blood Cells, Millions: Mean	Red Blood Cells, Millions: Range		Parenteral, Weekly Dose; Oral, Daily Dose	Duration, Weeks	Red Blood Cells, Millions: Mean	Red Blood Cells, Millions: Range
F. B.	58	1-4	102	4.7	5.0-4.1		Parenteral 100 Gm.	19	4.5	5.0-4.1
J. M.	66	3-6	85	4.3	5.1-3.3			..	...	.....
A. W.	79	2-3	60	4.6	5.3-4.2		Parenteral 40-100 Gm.	57	4.8	5.3-4.3
W. M.	64	2-3	52	4.5	5.0-3.9		Parenteral 60-200 Gm.	62	4.6	5.2-4.1
C. W.	57	2-3	69	4.7	5.3-4.0		Parenteral 100-300 Gm.	43	4.6	5.2-4.0
W. A.	58	3-6	78	4.3	4.8-3.9			..	...	.....
J. B.	31	3-4	6	4.4	4.6-4.1			..	...	.....
M. M.	51	2-4	61	4.6	5.4-4.0		Ventriculin 7-60 Gm.	74	4.2	5.3-3.4
							Parenteral 100-200 Gm. and ½ lb. liver daily	10	4.6	5.0-4.1
							Parenteral 20-200 Gm.	66	4.4	5.7-3.4
L. R.	66	3-6	69	4.0	4.7-3.5			..	...	.....
E. B.	39	1-4	94	4.3	4.6-4.0		Parenteral 20-200 Gm.	52	4.5	5.0-4.0
H. H.	55	2-6	95	4.2	4.9-3.5		Ventriculin 10-15 Gm.	19	4.4	4.8-3.9
							Oral extract 240-360 Gm. daily and ¼-½ lb. liver daily	14	3.8	4.4-3.2
B. R.	43	2-6	49	4.4	5.3-3.6		Parenteral 100-167 Gm.	9	4.4	4.6-4.0
P. C.	49	4-6	24	4.3	4.8-4.1			..	...	.....
M. W.	39	2-4	97	4.3	5.0-3.5		Parenteral 100-167 Gm.	9	3.7	4.3-3.2
A. S.	42	3	56	4.6	5.0-4.0		Liver ¼-½ lb. daily	50	4.3	4.8-3.9
							Parenteral 100 Gm. and ¼ lb. liver daily	11	4.4	5.1-4.0
B. F.	47	2-3	38	4.2	4.4-4.0			..	...	.....
M. S.	47	3-6	47	4.1	5.2-3.3		Parenteral 100-200 Gm.	16	4.1	4.8-3.6
R. K.	57	3-6	28	4.4	4.5-4.2		Parenteral 100-200 Gm.	67	4.1	4.8-3.1
L. F.	57	3-6	26	4.2	4.7-3.5			..	...	.....
E. H.	48	1-4	36	4.3	4.9-3.4		Oral Lilly ext. 160-400 Gm.	72	4.3	5.7-3.2
							Parenteral 20-200 Gm.	102	4.8	5.5-4.1
B. L.	31	4-8	30	4.4	4.5-4.2			..	...	.....
H. E.	49	4	27	4.2	4.4-3.8		Parenteral 100-300 Gm. and oral liver 1-2 times weekly	36	4.2	4.7-3.6
G. P.	50	2-4	44	4.1	4.9-3.6		Parenteral 67-167 Gm.	52	4.1	4.7-3.5
D. M.	66	1-4	25	4.3	4.9-4.0		Liver ½-1 lb. daily	102	4.0	4.7-3.5
							Parenteral 60-100 Gm. and ventriculin 10-20 Gm. or liver 1 lb. daily	29	4.1	5.0-3.5
							Parenteral 40-200 Gm.	37	4.4	5.1-3.5
J. T.	48	3-6	62	4.4	5.0-4.0			..	...	.....
H. E.	44	1-4	97	4.4	4.6-3.8		Parenteral 27-100 Gm.	47	4.3	5.1-3.5
H. P.	65	4-6	6	4.2	4.6-3.9		Parenteral 100-700 Gm.	65	4.0	4.8-3.2
M. C.	68	1-4	36	4.4	4.9-3.8		Ventriculin 10-40 Gm.	91	3.8	4.9-2.3
							Liver, ext. hemoglobin mixture (oral) 75 Gm.	15	4.5	4.9-4.0
							Parenteral 40-334 Gm.	41	3.8	4.9-2.5

* Doses of parenteral and oral liver extracts expressed in grams of liver from which the material was derived, ventriculin in grams of desiccated material taken.

to thirteen patients with pernicious anemia, the authors concluded [6] that "the oral dosage requirement of autolyzed liver approached the intramuscular requirement of other liver preparations." That antianemic potency might be influenced by autolysis was further suggested by the observations of Wills.[7] She found that, whereas ordinary yeast was inert in treating cases of tropical macrocytic anemia, autolyzed yeast equaled liver in its efficacy. Subsequently Strauss and Castle [8] were able to produce typical reticulocyte responses and remissions in addisonian anemia after an autolyzed yeast preparation had been incubated with normal gastric juice.

From the Department of Internal Medicine, Yale University School of Medicine, and the Medical Service of the New Haven Hospital.

1. Reimann, F.: Versuche zur Potenzierung der Wirkung oral verabreichter Leber: Kurze wissenschaftliche Mitteilung, Med. Klin. **27**: 880 (June 12) 1931.

2. Helmer, O. M.; Fouts, P. J., and Zerfas, L. G.: Increased Potency of Liver Extract by Incubation with Human Gastric Juice, Proc. Soc. Exper. Biol. & Med. **30**: 775 (March) 1933.

3. Walden, C. B., and Clowes, G. H. A.: Pernicious Anemia: Method Whereby Therapeutic Efficacy of Liver and Liver Fractions May Be Substantially Increased, Proc. Soc. Exper. Biol. & Med. **30**: 873 (April) 1932.

4. Fouts, P. J., and Zerfas, L. G.: Liver-Gastric Tissue Preparations in the Treatment of Pernicious Anemia, J. A. M. A. **101**: 188 (July 15) 1933.

5. Herron, W. F., and McElroy, W. S.: Autolyzed Liver Therapy in Pernicious Anemia, Science **76**: 127 (Aug. 5) 1932.

6. Herron, W. F., and McElroy, W. S.: The Use of Autolyzed Liver in the Treatment of Pernicious Anemia: A Preliminary Report, J. A. M. A. **100**: 1084 (April 8) 1933.

7. Wills, Lucy: Treatment of "Pernicious Anemia of Pregnancy" and "Tropical Anemia," with Special Reference to Yeast Extract as Curative Agent, Brit. M. J. **1**: 1039 (June 20) 1931.

8. Strauss, M. B., and Castle, W. B.: Nature of Extrinsic Factor of Deficiency State in Pernicious Anemia and in Related Macrocytic Anemias: Activation of Yeast Derivatives with Normal Gastric Juice, New England J. Med. **207**: 55 (July 14) 1932.

On the other hand, Castle and Strauss [9] were not able to substantiate the claims for the potency of autolyzed liver and autolyzed liver concentrates made by McEllroy and Herron.[6] A threefold gain in potency could not be demonstrated and it was shown that concentrates of autolyzed liver were less active than the amounts of liver from which they were derived. With these results, the observations recorded in this report are in complete agreement.

Nevertheless the question still remains whether autolyzed liver concentrate is a useful preparation for the treatment of pernicious anemia and also the important question whether the concentrate of autolyzed liver, which is essentially a liver extract, is more or less potent than other extracts prepared without preliminary autolysis. Data bearing on these considerations are presented in this report.

CLINICAL DATA

The therapeutic potency of autolyzed liver concentrate-Squibb (N. N. R.) [10] has been studied for a period of two years in the wards and in the hematology clinic of the New Haven Hospital.

Initial Treatment.—The blood response to the administration of autolyzed liver concentrate in a case of pernicious anemia is illustrated in chart 1. The preliminary submaximal test of gastrectomized pig's liver,[11] irrelevant to the purpose of this report, does not according to the principles of Minot [12]

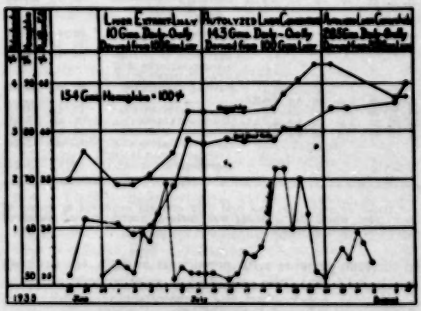

Chart 2.—Assay of autolyzed liver concentrate. The reticulocyte curves indicate that the product is more potent than liver extract-Lilly and that the dose necessary to cause a maximal response is greater than 14.3 Gm. daily.

and of Dameshek and Castle [13] vitiate the subsequent assay of autolyzed liver concentrate. It is to be noted that daily administration of 28.5 Gm., accurately weighed, of autolyzed liver concentrate provoked a reticulocyte peak which was slightly higher than standard [14] for adequate therapy. That this was a maximal response was further verified by the absence of a secondary reticulocytosis when 30 Gm. daily of oral liver extract-Lilly derived from 300 Gm. of liver was administered.

Chart 3.—Studies on the potency of autolyzed liver concentrate in a patient in two relapses.

The experiment graphically outlined in chart 2 indicates according to the principles formulated by Minot [12] and by Dameshek and Castle [13] that autolyzed liver concentrate derived from 100 Gm. of liver is more potent than liver extract-Lilly derived from the same amount of liver. The third reticulocyte peak, obtained when 28.5 Gm. of autolyzed liver concentrate was administered, suggests that 14.3 Gm. of autolyzed liver concentrate was less than the maximal dose.

The results of blood studies of a patient in two relapses are given in chart 3. On the first admission the patient received 8 teaspoonfuls daily of autolyzed liver concentrate, as a result of which a reticulocyte level of 33 per cent was attained on the eighth day of treatment. For the initial counts averaging 0.76 million red cells per cubic millimeter, this peak is lower than that expected according to the averages of Riddle.[14] This suggests that the dose of autolyzed liver concentrate might have been submaximal. On the other hand Bethel [15] has shown that, in some instances in which a more sustained reticulocyte response is obtained, the maximal reticulocyte percentage is usually appreciably less than would have been expected on the basis of the initial red blood cell count. To provide a quantitative basis for comparing these curves he devised a method of measuring the total reticulocyte response and constructed a formula for the expected response. In the case under discussion the duration of the reticulocytosis was twenty-one days. By means of planimeter measurements, made according to the method of Bethel, the area of the reticulocyte response was 100.1 sq. cm. This is appreciably better than the theoretical expected figure for adequate treatment, which is 75 sq. cm. for

9. Castle, W. B., and Strauss, M. B.: Effect of Autolysis on Potency of Liver in Treatment of Pernicious Anemia, J. A. M. A. 104:791 (March 9) 1935.

10. Patent application serial number 620,301. Furnished gratis in part by E. R. Squibb & Sons, New York; otherwise purchased in the open market.

11. Goodman, L.; Geiger, A. J., and Claihorn, L. N.: Antianemia Potency of Liver After Gastrectomy in Swine, Proc. Soc. Exper. Biol. & Med. 33:810 (March) 1935.

12. Minot, G. R.: The Interpretation of Reticulocyte Responses in Pernicious Anemia, Tr. A. Am. Physicians 49:287, 1934.

13. Dameshek, William, and Castle, W. B.: Assay of Commercial Extracts of Liver for Parenteral Use in Pernicious Anemia: Method of Successive Reticulocyte Responses in the Same Patient, J. A. M. A. 106:802 (Sept. 15) 1935.

14. Riddle, M. C.: Pernicious Anemia: Blood Regeneration During Early Remission, Arch. Int. Med. 46:417 (Sept.) 1930.

15. Bethel, F. H.: The Relation Between the Total Reticulocyte Production and the Degree of Bone Marrow Involvement in Pernicious Anemia, Am. J. M. Sc. 188:476 (Oct.) 1934.

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oral liver and 97 sq. cm. for ventriculin. Furthermore, the gain of 2.84 million red blood cells in approximately one month was greater than the average increase of 2.48 million recorded by Minot and Murphy [16] for their cases starting at similar levels. From these facts it seems highly probable that the therapy had been maximal.

In the second relapse the administration of autolyzed liver concentrate derived from 100 Gm. of liver provoked a greater reticulocytosis than resulted from liver extract-Lilly obtained from the same amount of fresh liver. A third increase in the percentage of reticulocytes occurred when autolyzed liver concentrate from 150 Gm. of liver was given. The significance of the small peak noted on the third day after the administration of autolyzed liver derived from 200 Gm. of liver is uncertain. The experiments in this case indicate again that autolyzed liver concentrate is more effective than liver extract-Lilly and that the maximal dose of the former lies between 21.5 Gm. and 28.5 Gm., or the amount derived from between 150 and 200 Gm. of liver.

The gain in red blood cells following initial treatment with autolyzed liver concentrate in two cases of pernicious anemia in relapse is delineated in chart 4.

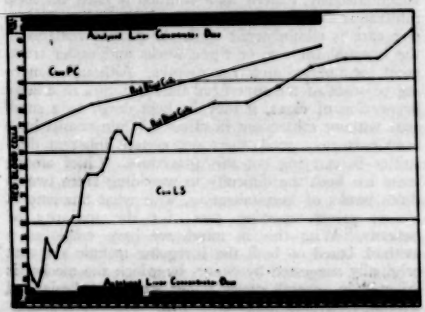

Chart 4.—The gain in red blood cells following initial treatment with autolyzed liver concentrate in two cases of pernicious anemia in relapse.

Maintenance Treatment.—The results of the maintenance treatment of patients with addisonian anemia are summarized in the accompanying table. In many of the cases it was possible to introduce control periods in which other forms of therapy of recognized efficacy were administered.

After changing from one treatment to another, the blood counts for a period of three weeks were discarded in order to allow for the carry-over effect of storage of active material. From the table it is evident that maintenance of the red blood count with autolyzed liver concentrate is on the whole satisfactory as compared with other types of treatment. It is noteworthy that the mean maintenance level of the red blood cell counts for all forms of treatment is slightly lower than the values that have been emphasized as the goal of adequate maintenance treatment. In our experience this is due in most instances to spontaneous fluctuations, which are not influenced by any therapy and occur in many patients with pernicious anemia. Innumerable attempts have been made to interrupt the course of these spontaneous variations by the exhibition of massive doses of parenteral liver extract—as much as the amount derived from 700 Gm. of liver weekly—without success. In other instances, specific therapy has been stopped for periods as long as six months without essential change in the average level of the red blood cell count or in the

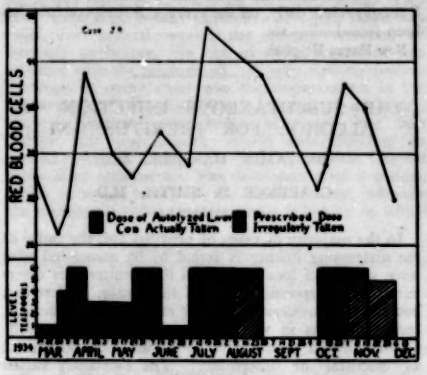

Chart 5.—The effect of intermittent treatment with autolyzed liver concentrate on the red blood cell count of a patient with pernicious anemia.

symptoms. That this is not true for all cases of pernicious anemia is strikingly illustrated in chart 5. In this case, which has particular value in demonstrating the efficacy of treatment, the red blood count and symptoms followed very closely the amount of autolyzed liver concentrate taken. It is important, then, in evaluating any form of maintenance treatment that the observations should extend over a long period of time, include a series of patients and, if possible, be controlled by other types of therapy. An example of extended maintenance with the form of treatment under consideration is given in chart 6.

The average maintenance dose of autolyzed liver concentrate was found to be 3 level teaspoonfuls daily with a range of from 1 to 8 teaspoonfuls. In general, doses larger than average were necessary for the aged and those with extensive neurologic disturbances. In some

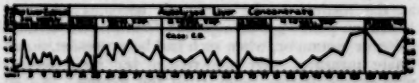

Chart 6.—Maintenance treatment of a case of pernicious anemia with autolyzed liver concentrate.

of these cases, oral therapy in any form was economically unpractical. In a number of cases, repeated allergic reactions to the parenteral administration of liver extract made oral treatment obligatory.

The effect of treatment with autolyzed liver concentrate on the symptoms of pernicious anemia, initially and thereafter, was commensurate with that obtained from other forms of therapy.

SUMMARY

1. Autolyzed liver concentrate is effective in the initial and maintenance treatment of addisonian anemia.

2. Autolyzed liver concentrate is more potent than liver extract-Lilly derived from the same amounts of liver.

16. Minot, G. R., and Murphy, W. P.: Treatment of Pernicious Anemia by a Special Diet, J. A. M. A. 87:470 (Aug. 14) 1926.

3. In the initial treatment of pernicious anemia, maximal effects have been obtained from a daily dose of autolyzed liver concentrate derived from between 150 and 200 Gm. of liver.

4. For maintenance treatment a dose of from 1 to 8 teaspoonfuls daily, on the average 3 teaspoonfuls, has been found adequate.

New Haven Hospital.

THE SUBCUTANEOUS INJECTION OF ALCOHOL FOR PRURITUS ANI

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AND
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In the majority of cases of pruritus ani, the cause of the distressing itching is found to be associated with some variety of local lesion and the treatment is determined by the specific nature of this cause. There are, however, a considerable number of cases of intractable, severe pruritus in which no causative factor can be discovered and which have been variously designated as "essential" or "idiopathic." The extremely varied types of treatment suggested and the large number of remedies employed are evidence of the difficulties in securing relief in these cases. The use of alcohol by subcutaneous injection, first introduced by Stone [1] and later employed by Buie [2] in a modified form, has been found to be a particularly effective means of treatment. The employment of this method by a somewhat modified technic in a series of twenty-two patients observed for a period of a year or more is presented in this report.

The clinical features presented by this group of patients were more or less characteristic. The itching has usually been of long duration and fairly constant. It is often intense, especially at night. Sleep is inadequate and, with the inability to secure sufficient rest, the general health may be impaired. Scratching may be so marked during sleep that the skin bleeds. Many and varied remedies have been tried with only partial or temporary relief. It is because of the great distress these patients suffer that a more radical measure, such as the method to be described, becomes necessary. Either no pathologic change was found in the terminal colon or rectum or, when such had been present, appropriate measures were undertaken for their removal without appreciable relief from the itching. No etiologic factor, either general or local, could be found to account for the intractable pruritus.

As a rule, both gross and microscopic changes were found on examination of the skin about the anus. These changes probably occur as a result of scratching, followed by bacterial invasion of the tissues and, to some extent, from previous treatment. The skin is usually a grayish white and markedly thickened. In some it is tough and of a leathery consistency; in others it is thick and soggy, presenting an appearance described as "parboiled." There may be numerous reddened and excoriated areas and even pustules with excessive secretion and moisture. The microscopic appearance, according to Crawford,[3] is essentially that of a low-grade inflammatory process with proliferative changes. He found marked thickening of the surface epithelium with hyperkeratinization, and dilatation of the superficial blood vessels and lymphatics, with extensive infiltration, usually of small lymphocytes. The deeper layer of the cutis shows extensive fibrosis, while the upper layer may be edematous. The cutaneous nerves show no evidence of involvement. These observations are in agreement with those reported by Montgomery.[4]

An analysis of the methods of treatment that have been successful in relieving these cases of intractable pruritus indicates that they all attempt to accomplish their effect either by severance, anesthesia or destruction of the peripheral sensory nerve filaments immediately beneath the involved skin.[5] The effect of alcohol in destroying nerve fibers with which it comes in contact is well known. In our opinion, the most effective method has been that suggested by Buie. Briefly, this method may be described as follows: Under sacral anesthesia, with the patient prepared as for the ordinary rectal operation, 40 per cent alcohol is injected subcutaneously, exactly as a solution is used for local infiltrative anesthesia. Careful and detailed postoperative care is administered while the patient remains in the hospital for two or three weeks and under treatment for a period up to two months. Although sloughing of some of the superficial tissues occurs in a large proportion of cases, it may be kept down to a small area without subsequent ill effect. While results have been extremely good, there are certain inherent difficulties in carrying out this procedure. Chief among these has been the difficulty in providing from two to three weeks of hospitalization, with what amounts to almost private nursing care, for the majority of patients. With this in mind, we have employed a method, based on both the foregoing technic and that originally suggested by Stone, by which the alcohol is injected in several stages under local anesthesia and without hospitalization.

METHOD OF TREATMENT

The patient is placed in the Sims position and the perianal area is prepared as for any rectal operation under local anesthesia. Only a segment of perianal skin, either one fourth or one fifth of the entire area, is selected for treatment at one time. Just beyond the outer edge of the involved skin, which can usually be outlined by its appearance, a small wheal is raised by the injection of procaine hydrochloride. Through this wheal, a needle of 20 or 22 gage and from 2 to 3 inches long is passed under the skin and a 2 per cent solution of procaine hydrochloride is injected subcutaneously, as thin a layer of fluid as possible being made, with little or no distention of the skin. In this manner and without withdrawal of the needle, the fan-shaped segment selected is injected from the border of normal skin to the mucocutaneous margin. From 3 to 5 cc. of procaine hydrochloride solution is required and it is advisable to inject it under an area slightly greater than that in which the alcohol is placed. The needle is next carried near the outer limits of the anesthetized area, a second syringe is attached and 70 per cent ethyl

From the Department of Proctology, Surgical Service of Dr. Thomas A. Shallow, Jefferson Medical College Hospital.

1. Stone, H. B.: Treatment for Pruritus Ani, Bull. Johns Hopkins Hosp. 28:242-243 (Aug.) 1916.

2. Buie, L. A.: Proctoscopic Examination and the Treatment of Hemorrhoids and Anal Pruritus, Philadelphia, W. B. Saunders Company, 1931.

3. Crawford, B. L.: Personal communication to the authors.

4. Montgomery, Hamilton, quoted by Buie.[2]

5. Ball, C. B.: The Rectum: Its Diseases and Developmental Defects, London, H. Frowde, Hodder and Stoughton, 1908. Yeomans, F. C.; Gersch, B. V., and Matheheimer, J. L.: Benzol in the Treatment of Pruritus Ani (Preliminary Report), Tr. Am. Proct. Soc. 1927, pp. 24-29.

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alcohol is injected as the needle is withdrawn through the tissues. By moving the needle back and forth, one can distribute the alcohol in such a manner as to distend the skin uniformly and without too much tension. The folded, very irregular, surface of the skin about the anus renders it difficult in many instances to keep the injection at a uniform depth and concentration. The quantity of alcohol used is equal to that of the procaine hydrochloride solution employed in the area. A mild antiseptic dressing is applied and the patient is allowed to return home. If the procaine hydrochloride has been properly placed, very little discomfort is experienced. The patient is advised to carry out adequate cleansing of the area, to apply hot saline compresses two or three times daily for several days and to keep a suitable dressing over the area. The same procedure is then repeated at intervals of from four to seven days until the entire perianal skin has been so treated. Depending on the area injected at any one time, from four to six such treatments are necessary, requiring a total quantity of from 15 to 20 cc. of alcohol.

Several precautions should be observed in carrying out this plan of treatment. The alcohol must be placed in the relatively loose subcutaneous tissue. If it is injected intradermally, a slough is certain to result. Care must be taken also to avoid injecting it deep enough to involve the anal sphincters. In the male, the membranous urethra is not far beneath the skin, and the alcohol must be placed superficial to this structure to avoid serious injury. Too great a quantity should not be injected under a small area. This is especially likely to occur under the creased skin between the folds. Excision of tissue is not to be done at the same time as the injection, or an indolent wound will result which may require weeks to heal.

The only complication encountered was some slight sloughing of tissue, which occurred in six of the twenty-two patients treated. This was evident early by the formation of a small abscess associated with the usual signs and discomfort and followed later by a small ulcer with a necrotic base. In only one instance was it larger than the wound which would result from the removal of an external skin tag. Except for the slight discharge, no discomfort was experienced as a rule, and satisfactory healing took place in from three to four weeks. No special measures were employed other than those ordinarily used in the treatment of any open wound in this area.

SUMMARY OF CASES TREATED

The method as outlined was carried out in twenty-two patients, all of whom were observed for at least one year following the treatment. Of the group, thirteen were males and nine were females, with an average age of 43 years. Symptoms had been present for periods varying from six months to seven years, the average duration being two and three-fourths years. In all of them any pathologic condition present at the initial examination which was regarded as a possible cause of the pruritus was removed or corrected as far as possible. The present treatment was not undertaken until after this had been done without relief of symptoms and until after the ordinary measures had failed. As stated before, most cases of anal pruritus will be relieved by simple measures or after the removal of associated pathologic conditions. Alcohol was not injected as a routine as the patients presented themselves but after we felt that we were dealing with an intractable type of itching.

The results have been very satisfactory. Of the twenty-two patients, sixteen experienced complete relief from all itching and have remained so for a year or more; four were made comfortable but were not entirely relieved. Occasional slight itching persisted, but it was reported as not being very distressing. Two cases were regarded as failures. Although there was relief for several weeks, the itching returned as intensely as before. In one of these, treatment was repeated with the same result. A very striking feature observed in many cases was the improvement in the appearance of the anal skin. Instead of its tough, leathery surface often badly excoriated, the skin became soft and smooth, closely approximating its normal state. A microscopic study of the skin was not made after treatment. The development of a slough, which occurred in six of the cases, did not influence the ultimate outcome and, in some instances in which it occurred, the results were probably better because of the greater fibrosis. No other complication was encountered.

Summary of Cases Treated

Patient	Age	Sex	Duration of Symptoms	Associated Disorder Treated Before Injection	Number of Injections	Slough	Freedom from Itching
1	56	♂	8 yrs.	None	5	0	Not complete
2	23	♀	3 yrs.	Burn caused by saponated solution of cresol	6	0	Complete
3	40	♂	2 yrs.	Fissure excised	4	0	Complete
4	38	♀	3 yrs.	None	3	1	Complete
5	54	♂	1 yr.	None	4	0	Complete
6	44	♀	3 yrs.	Injection of hemorrhoids	3	0	Complete
7	27	♀	6 mos.	None	2	0	Complete
8	31	♂	7 yrs.	None	4	0	Complete
9	35	♀	1 yr.	None	4	0	Complete
10	36	♀	3 yrs.	Fissure excised	3	0	Complete
11	29	♀	6½ yrs.	Hemorrhoidectomy	4	0	Complete
12	43	♀	1 yr.	Injection of hemorrhoids	3	1	Not complete
13	58	♂	9¼ yrs.	Injection of hemorrhoids	4	1	Complete
14	40	♀	1 yr.	Injection of hemorrhoids	4	0	Complete
15	39	♂	2 yrs.	None	3	0	Not complete
16	40	♂	1 yr.	None	3	0	None
17	35	♂	5 yrs.	None	5	1	None
18	48	♂	2 yrs.	Skin tags excised	3	1	Complete
19	57	♂	6 mos.	Fissure excised	3	0	Complete
20	65	♂	1 yr.	Hemorrhoidectomy	2	0	Complete
21	60	♂	3 yrs.	None	4	0	Not complete
22	45	♂	1 yr.	Possible allergic origin	4	2	Complete

CONCLUSIONS

1. There are a number of patients with severe intractable anal pruritus in which no causative factor can be demonstrated and in whom the employment of ordinary methods of treatment are not effective. The clinical features of this type are more or less characteristic.

2. Seventy per cent alcohol can be injected subcutaneously in such cases, under one segment of perianal skin at a time, and after preliminary anesthesia with an equal amount of procaine hydrochloride, for the purpose of destroying superficial nerve filaments. Hospitalization is not required.

3. Twenty-two patients observed for a year or more were treated by this method: sixteen secured complete relief, four were made comfortable but not entirely free from itching, and two were classed as failures, relief lasting for a short period only.

4. The method is effective when carried out with certain precautions. No serious complications were encountered.

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THE USE OF LARGE VOLUME INTRAVENOUS INJECTIONS

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The literature on large volume intravenous injections is so voluminous, the statements and recommendations involved in the selection of proper fluid, the dose, the rate of injection, the temperature of the fluid and the cause of reactions are so contradictory that many of the medical profession are greatly confused. The average man under these circumstances would prefer to go according to the usual practice rather than according to what may eventually prove to be the ideal practice. Unfortunately he has no means of knowing what is the usual practice of other than his immediate confrères, who may be just as much at sea as he is. Because of my connection with a laboratory making and distributing intravenous solutions, I am in an unusually advantageous position to learn what is being used in various sections of the country and also to learn what points most often confuse the practicing physician. An attempt is made to give "middle of the road" answers to the questions most frequently asked of our staff. Every statement made (or that could be made) will be in direct disagreement with the thought or writings of some man who has wide experience in this field.

SOLUTIONS USED IN VARIOUS SECTIONS OF THIS COUNTRY

Table 1 gives the percentage of certain solutions to all solutions used in various localities according to the distribution figures of the Cutter Laboratories. It is subject to certain errors. For instance, the figures largely represent sales to dealers, and the dealers in a particular territory might be heavily stocked in one type of solution at the first of the period and very low in stock at the end of the period, or vice versa. It is

Table 1.—*Distribution of Various Solutions in Different Regions of the United States*

Region	Dextrose 5% in Salt Solution	Dextrose 5% in Water	Dextrose 10% in Salt Solution	Dextrose 10% in Water	Physiologic Solution of Sodium Chloride	Ringer's (Also Dextrose in Ringer's) Solution	Lactate Ringer's (Hartmann)	All Other Solutions
Northeast	62%	3%	10%	1%	10%	....	....	....
Southeast	26%	1%	14%	6%	42%	....	1%	12%
North midwest	44%	6%	22%	3%	19%	....	1%	3%
South midwest	31%	3%	32%	7%	16%	....	6%	....
Northwest	43%	9%	24%	11%	11%	2%	....	....
Southwest	14%	4%	24%	39%	10%	5%	....	....
Average	36%	5%	22%	11%	21%	1%	1%	2%

Percentages represent the proportion of a certain type of solution to the total of all types of solutions used in that area. Blank spaces represent less than 0.5 per cent.

not believed, however, that these errors are great. It probably shows the picture more accurately than would figures based on a questionnaire sent to various physicians and hospitals.

The table is interesting in that it shows that preferences differ markedly. For instance, dextrose 5 per cent in physiologic solution of sodium chloride is called for in the Northeast more than four times as frequently as it is in the Southwest.

Dextrose in salt solution seems to be quite generally preferred to dextrose in water. There has been a definite decline in the use of physiologic solution of sodium chloride and now it remains the most popular choice in only one region—the Southeast.

PRACTICAL POINTS INVOLVED IN THE USE OF LARGE VOLUME INTRAVENOUS INJECTIONS

Intravenous injection of large quantities of fluids should be used only when simpler methods of administration are inadequate or too slow. On the other hand, this operation has now been so simplified and reactions so common in the past have been so effectively reduced

Table 2.—*Caloric Requirement With and Without Fever*

Weight (Pounds)	Calories Required 24 Hours: Without Fever	Calories Required 24 Hours: With Fever	Weight (Pounds)	Calories Required 24 Hours: Without Fever	Calories Required 24 Hours: With Fever
10	120	180	100	1,200	1,800
15	225	270	110	1,650	1,980
20	300	360	120	1,800	2,160
25	375	450	130	1,950	2,340
30	450	540	140	2,100	2,520
40	600	720	150	2,250	2,700
50	750	900	160	2,400	2,880
60	900	1,080	170	2,550	3,060
70	1,050	1,260	180	2,700	3,240
80	1,200	1,440	190	2,850	3,420
90	1,350	1,620	200	3,000	3,600

that there can be no excuse for temporizing with hypodermoclysis or rectal instillations when there is any question of their adequacy. Twice the volume given intravenously twelve hours too late may not relieve a condition which half the volume given twelve hours "too early" would have prevented.

Selection of Solution.—1. When fluids are needed, 5 per cent dextrose in physiologic solution of sodium chloride is most often used.

2. When excessive sweating, vomiting, diarrhea or exudation (e. g., burns) accompany the fluid loss, 5 per cent dextrose in physiologic solution of sodium chloride is used to replace salt loss.

3. When nourishment is needed, 10 per cent dextrose in physiologic solution of sodium chloride or in water has preference.

4. When acidosis is threatened or present, 10 per cent dextrose in salt solution or in water, or in lactate-Ringer's solution (Hartmann's solution) is used.

5. In treating poisoning with soluble diffusible poisons (includes most of the common poisons) several liters of 5 per cent dextrose in water is used to wash the blood after the usual emergency procedures.

6. In hypoglycemia (insulin shock) 10 per cent dextrose in physiologic solution of sodium chloride or in water is used.

7. In diabetic coma, 10 per cent dextrose in physiologic solution of sodium chloride or in water is used. (One unit of insulin per gram of dextrose may be mixed in the intravenous flask but insulin is much more dependable when given subcutaneously. Each 10 cc. of 10 per cent dextrose contains 1 Gm. of dextrose.)

Dextrose 5 per cent is approximately isotonic with blood and is passed off as carbon dioxide through the lungs, placing little or no load on the kidneys. It is harmless when not needed, but usually when there is large fluid (or salt) loss there is an accompanying need for fuel; hence the almost universal inclusion of dextrose in solutions for mass intravenous injection.

Dextrose in Ringer's solution (a blood-imitating solution containing potassium and calcium chlorides in addition to sodium chloride) is occasionally substituted

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for dextrose in physiologic solution of sodium chloride wherever mentioned. This also applies to dextrose in lactate Ringer's solution (Hartmann's solution—Ringer's solution plus sodium lactate, designed to compensate for loss of bicarbonate).

Dose.—The initial dose is usually 1,000 cc. for adults. For children the dose is reduced in proportion to weight. Subsequent dosage should be sufficient to accomplish the purpose.[1] For fluid or salt deficiency sufficient should be given to maintain at least 1,000 cc. (34 ounces) of urine daily.

After the original fluid loss has been made up, i. e., the urine is dilute (of low specific gravity), further fluid injection should equal the total fluid output. For practical purposes one may calculate the fluid output as follows:

Consider the loss through lungs, skin and normal defecation as 1,000 cc. daily;[2] if there is increased metabolism, excessive perspiration, hemorrhage, vomiting, exudation or diarrhea, estimate these losses and add the estimated or preferably measured urinary output. Their sum is the total fluid output. Example:

Lungs, skin and defecation (considered) 1,000 cc., urine measured 1,650 cc., vomitus estimated 300 cc.; total fluid output 2,950 cc. Dose for coming twenty-four hours 2,950 cc. or, in round numbers, 3,000 cc.

This method of handling dosage will go a long way toward avoiding edema (including pulmonary edema), for which one should always be on guard.

For nutrition an adult weighing 140 pounds (63.5 Kg.) requires at least 5,000 cc. of 10 per cent dextrose solution daily if this is the only source of nourishment. (This is based on 15 calories per pound resting requirement, 18 calories with fever [33 and 40 calories per kilogram respectively]. Dextrose yields 4.10 calories per gram; 1,000 cc. of 10 per cent dextrose contains 100 Gm. of dextrose, which yields 410 calories.)

TABLE 3.—*Caloric Values of the More Commonly Used Dextrose Solutions*

Volume Injected, Cc.	5% Dextrose Calories	10% Dextrose Calories	20% Dextrose Calories
10	2	4	8
20	10	20	41
100	20.5	41	82
200	102.5	205	410
1,000	205	410	820
1,500	307.5	615	1,230
2,000	410	820	1,640
2,500	512.5	1,025	2,050
3,000	615	1,230	2,460
3,500	717.5	1,435	2,870
4,000	820	1,640	3,280
4,500	922.5	1,845	3,690
5,000	1,025	2,050	4,100
5,500	1,127.5	2,255	4,510
6,000	1,230	2,460	4,920
6,500	1,332.5	2,665	5,330
7,000	1,435	2,870	5,740
7,500	1,537.5	3,075	6,150
8,000	1,640	3,280	6,560

EXPLANATION OF THE USE OF TABLES 2, 3 AND 4

Tables 2, 3 and 4 are designed to help in the determination of the caloric need, the selection of a suitable dextrose concentration and volume and appropriate speed of injection. Weights are expressed in pounds rather than kilograms because metric scales are not generally available; moreover, the weight is generally estimated or taken from the patient's statement and, whether they should or should not, many clinicians have difficulty in converting pounds to kilograms. At best it means another calculation. Example:

A patient without fever, estimated to weigh 140 pounds (63.5 Kg.), is unable to take nourishment by other means than intravenous injection. Using table 2 or the formula of caloric requirement (15 calories per pound daily, 18 calories if the patient has fever) we find that the patient needs 2,100 calories daily. Table 3 shows the nearest figure to this to be 2,050 calories, which is supplied by 5,000 cc. of 10 per cent solution or 2,500 cc. of 20 per cent. Since 10 per cent dextrose is more nearly isotonic and yields the caloric requirement in an amount that is entirely practical to administer each day, it is the solution of choice. Table 4 shows that continuous phleboclysis at the rate of 3.5 cc. per minute or 208 cc. per hour will use 5,000 cc. a day. If a more rapid rate of injection is desired, 8.3 cc. a minute will yield 500 cc. an hour. In adjusting the rate per minute it will be found that the average dextrose solution will come through the average drip meter at about 12 drops per cubic centimeter rather than 16 drops per cubic centimeter, which is the factor commonly used.

TABLE 4.—*Rate of Flow Equivalents*

Cc. per Minute	Cc. per Hour	Cc. per 24 Hours	Cc. per Minute	Cc. per Hour	Cc. per 24 Hours
0.35	21	500	3.8	229	5,500
0.7	42	1,000	4.2	250	6,000
1.1	63	1,500	4.5	271	6,500
1.4	83	2,000	4.9	292	7,000
1.7	104	2,500	5.2	313	7,500
2.1	125	3,000	5.6	333	8,000
2.4	146	3,500	8.3	500	12,000
2.8	167	4,000	12.5	750	18,000
3.1	188	4,500	16.7	1,000	24,000
3.5	208	5,000			

Rate of Injection.—Dextrose solutions should not be injected more rapidly than 0.35 Gm. per pound of body weight per hour, as above this rate sugar is excreted in the urine of a normal adult.[3] However, one could inject 10 per cent dextrose at the rate of 500 cc. an hour and still be within this limit with a man of average weight.

It has been rather general practice to inject a liter of solution in from thirty minutes to an hour. Recently several have taken violent exception to this practice and have recommended up to eight hours for the injection of a liter. Those who prefer more rapid injection say that continuous phleboclysis is inconvenient and not practical, while those advocating slow injection believe that the rapid method may cause "speed shock." The man who selects a rate of flow of about 500 cc. an hour for adults when there is indication neither for particularly slow nor for particularly rapid injection is treading middle ground. As a rule, hypertonic solutions (e. g., from 2 to 5 per cent saline or from 10 to 20 per cent dextrose) should be given more slowly than isotonic solutions (e. g., 5 per cent dextrose or physiologic solution of sodium chloride).

In shock, one should inject at the rate of from 20 to 40 cc. per minute, constantly watching the pulse and blood pressure. When these improve to within safe limits, the speed of injection should be reduced.

Temperature of Injected Fluid.—The temperature of the solution in the flask may range between 75 and 120 F., 112 being a good average. When the patient's temperature is high, relatively cool solutions should be used. When the patient's temperature is abnormally

1. Fantus, Bernard: The Prescribing of Dextrose Phleboclysis, J. A. M. A. 103:2165 (June 30) 1934.

2. F. A. Coller and W. G. Maddock (Dehydration Attendant on Surgical Operations, J. A. M. A. 99:875 [Sept. 16] 1932) show that the "insensible" loss through skin and lungs during operation and for the first four hours following operation will average 1,000 cc. and may be much more.

3. Wilder, R. M., and Sansum, W. D.: d-Glucose Tolerance, Arch. Int. Med. 19:311 (Feb.) 1917.

low, solutions between 112 and 120 should be used; e. g., shock. When the injections are given slowly, however, the temperature of the solution is probably of minor importance.

SUMMARY

Preferences for the solutions more commonly used in large volumes intravenously vary in different sections of this country. Dextrose 5 per cent in physiologic solution of sodium chloride is most often used.

Nonoriginal suggestions and the tables will aid the physician who may be confused by the conflictions of current literature in determining and carrying out good common sense intravenous practice.

Fourth and Parker streets.

DISLOCATIONS OF THE KNEE JOINT

WITH A REPORT OF A COMPLETE EXTERNAL LATERAL DISLOCATION

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The knee is probably more often the site of traumatic involvement than any other joint. Complete dislocations of the knee joint are extremely rare and occur less frequently than in any of the large joints of the body. Subluxations of the knee joint, however, are very common.

The records of many large hospitals fail to show a single case of a complete dislocation of the knee. According to Ritter [1] in 23,000 accident cases admitted to the Reconstruction Hospital in New York, only one dislocation of the knee was noted and that one was incomplete. Ritter also states that the records of the New York Post Graduate Hospital reveal but three

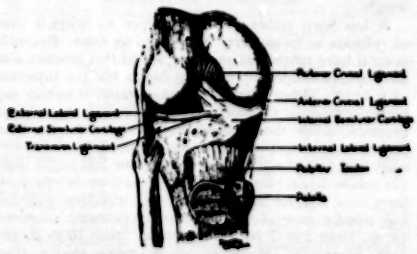

Fig. 1.—Important ligaments of the knee joint. (Cunningham, D. J.: A Text Book of Anatomy, ed. 4, New York, William Wood & Co., 1913.)

cases. One was the result of a chronic infection and the other two were forward dislocations of traumatic origin. Ransohoff [2] states that in 1,000 dislocations in the General Hospital at Copenhagen there were only two dislocations of the knee joint.

In a total number of about 9,000 fractures and dislocations treated by the orthopedic service of the Employees Hospital, there were six cases of complete dislocation of the knee joint. In four of these cases the knee was dislocated anteriorly,[3] in one case it was dislocated posteriorly and the sixth case was an external lateral dislocation of the knee joint, which is herewith being reported in detail.

ANATOMY

The bony landmarks of the knee are the patella, the internal and external condyles of the femur, the condyles and the tubercle of the tibia, and the head of the fibula. The soft part landmarks are the quadriceps tendon anteriorly and the hamstring muscles and tendons posteriorly. The bones entering into the formation of the joint are the condyles and the patellar surface of the femur above, the condyles and the spinous processes of the tibia below, and the patella anteriorly.

The stability and support of the knee are dependent on its various ligaments, of which there are two sets, the external and the internal (fig. 1). The external ligaments are the most important and consist of the internal and external laterals, the quadriceps and its component muscles and tendons, the patella and patellar tendon anteriorly, and the oblique popliteal and arcuate popliteal ligaments posteriorly.

In addition to these, the capsular ligament entirely surrounds the joint. The two heads of the gastrocnemius and the tendon of the semimembranosus muscle reinforce the other structures posteriorly.

The internal set of ligaments consist chiefly of the anterior and posterior crucials. The anterior crucial ligament arises from the nonarticular fossa of the tibia anterior to the tibial spine and passes upward and outward and is inserted to the posterior medial aspect of the external condyle of the femur within the intercondylar notch. The function of this ligament, as can be seen from its location, is to prevent anterior dislocation of the tibia on the femur when the knee is in extension.

The posterior crucial ligament arises from the lateral surface of the anterior portion of the internal condyle of the femur and passes to the posterior intercondyloid tubercle and fossa of the tibia. This ligament prevents posterior dislocation of the tibia on the femur.

The two semilunar cartilages rest on the condyles of the tibia. They are not attached to the condyles but to the capsule by their outer margins and to the intercondyloid eminence and the crucial ligaments. They are connected medially by a variable transverse ligament.[4]

ETIOLOGY, TYPES AND CLASSIFICATION OF DISLOCATION AT THE KNEE

Dislocations of the knee may be complete or incomplete and may be caused by direct or indirect violence. Incomplete dislocations are more common. They are classified according to the relation of the upper end of the tibia to the lower end of the femur. The various types are as follows:

1. *Anterior Dislocation.*—This is the most common type of dislocation at the knee, about 40 per cent of all knee joint dislocations being of this type.[3] Anterior dislocations occur when the knee is in full extension, either when direct violence is applied to the anterior lower end of the thigh, driving the femur backward,

From the orthopedic clinic, Employees Hospital.

1. Ritter, H. H.: Dislocation of the Knee Joint, J. Bone & Joint Surg. 14:391-394 (April) 1932.
2. Ransohoff, J.: Dislocations of the Knee, Tr. West. S. A., December 1915.
3. Key, J. A., and Conwell, H. E.: The Management of Fractures, Dislocations and Sprains, St. Louis, C. V. Mosby Company, 1934, pp. 944-947.
4. Sobotta, Johannes: Atlas of Human Anatomy, edited by J. P. McMurrich, New York, G. E. Stechert & Co., 1927.

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or when applied to the posterior upper end of the leg near the knee, driving the tibia forward. It may also occur by indirect violence, such as occurs when one is standing in a falling elevator.[2]

2. *Posterior Dislocations.*—This type is second in frequency of occurrence, composing about 20 per cent of these dislocations.[2] Posterior dislocations occur while the knee is in flexion. Extreme direct violence received on the anterior upper end of the leg near the knee or on the posterior surface of the thigh near the knee usually causes this type of injury. It may also be caused by indirect violence, as occurs when one is running and steps into a hole, the leg being fixed and the weight of the whole body being thrown forward on the knee. In all posterior dislocations the posterior crucial ligament is ruptured.

3. *Lateral Dislocations.* — These compose about 20 per cent of knee joint dislocations.[2] They are caused by forced adduction of the leg or, as happened in our case, the leg may be caught in a rotating wheel and twisted on the thigh. It may also be caused by direct violence against the inner aspect of the leg high up or against the lower end of the thigh on the outer side.

4. *Medial Dislocations.*—About 7 per cent of all cases are of this type.[2] The tibia is displaced medially by forced abduction of the leg or by direct violence against the external surface of the leg, high up, or against the inside of the thigh, low down.

5. *Rotary Dislocations.*—This type of injury is rare. It is usually caused by the leg being caught in a rotating wheel and rotated about its long axis. There are two types, outward or inward, according to the direction of the toes.

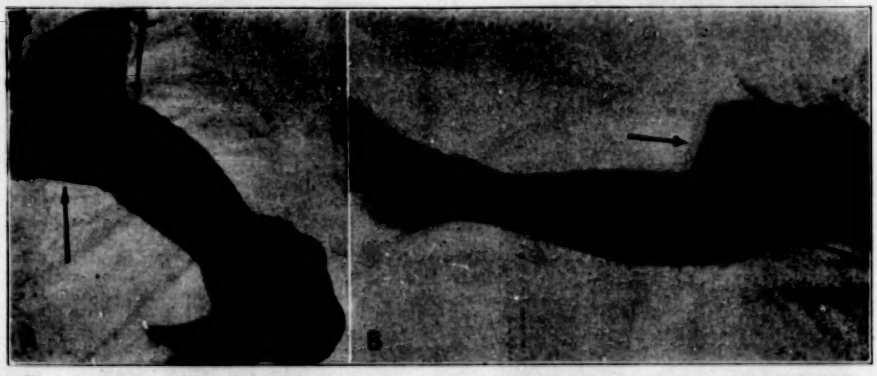

Fig. 2.—A complete external lateral dislocation of the knee joint. Note the visibility of both condyles and the intercondylar notch of the femur. Also note the extreme degree of stretching of the hamstring muscle (*B*).

PATHOLOGY

The pathologic conditions in dislocations of the knee vary according to the type of dislocation. Fractures are unusual in anterior and posterior dislocations, except for avulsion of the tibial spine. Lateral and medial dislocations are often accompanied by fractures, which may be of the internal or external condyles of the femur or tibia. The semilunar cartilages may be fractured or displaced, causing considerable difficulty in reduction. In anterior dislocations the anterior crucial ligament is always ruptured and the posterior crucial may be torn. In posterior dislocations the posterior crucial is ruptured and the anterior may be also. The hamstring tendons, may be torn and are always unduly stretched in anterior dislocations.

In either anterior or posterior knee dislocations, all the ligaments of the knee may be torn, but usually portions of the lateral ligaments remain intact. There is usually an extensive laceration in the capsule and capsular ligament in any dislocation of the knee. A narrow tear in the capsule may necessitate an open reduction. Rupture of ligaments and tears in the capsule are usually more extensive and complete in lateral and medial dislocations. Usually all the important ligaments in these cases are ruptured, including the crucials, the laterals and the posterior ligaments. The patellar and quadriceps tendons are rarely ruptured.

Any type of dislocation may be compounded, and when this occurs it is a serious complication, especially in the anterior dislocations in which the lower end of the femur penetrates the popliteal space. Simultaneous dislocation of the patella is extremely rare. One of our cases was accompanied by this unusual complication.

Injuries to the nerves and blood vessels in the region of the knee are not uncommon. Rupture of the popliteal artery may occur,[5] and gangrene may result. This is especially likely in anterior dislocations and is due to anatomic fixation of the popliteal artery.[6] It is possible, however, for only the intima to be injured, which may result in a delayed thrombosis and gangrene.

Aneurysms sometime develop following initial arterial injury. When a vessel is severed, the contusion and laceration of the periarticular soft parts are so great that collateral circulation is often prevented from taking place. Nerve injuries are not infrequent and may consist of a simple contusion or a complete severance of the sciatic nerve or its branches. Permanent nerve injury is rare.

DIAGNOSIS

The diagnosis of a complete dislocation of the knee joint is usually not difficult. In the presence of a history of extreme violence, severe pain and discomfort,

5. Anderson, R. L.: Dislocation of the Knee with Rupture of the Popliteal Artery and Vein: Report of a Case, Virginia M. Monthly 58:120-123 (May) 1931.

6. Lipshutz, Benjamin: Injuries to Large Arteries Encountered in Civil Practice, Surg., Gynec. & Obst. 46:62-71 (Jan.) 1928.

with inability to bear weight and a deformity of the knee and shortening of the extremity, one should immediately suspect a dislocation.

Roentgenograms usually prove the diagnosis. One should always look for complications. The dorsalis pedis and posterior tibial arteries should always be palpated. Evidences of nerve injury and its extent should always be looked for. A large mass in the popliteal space with an absence of pulsations in the dorsalis pedis and posterior popliteal arteries indicates a hematoma from a ruptured vessel and usually demands immediate exploration.[5]

Roentgenograms should be made before any treatment is instituted if the general condition of the patient permits and if there is no indication for immediate

Fig. 3.—Complete external lateral dislocation of the knee joint with a chip fracture of the internal condyle of the tibia. Note the distance between the spine of the tibia and the intercondylar notch of the femur.

reduction. This will not only show the exact position of the dislocation but reveal any fractures that may be present.

TREATMENT

The patient's leg should be properly splinted as soon as he is seen. If shock is present this should be combated by the usual measures; certain cases, however, may demand immediate reduction if the circulation is temporarily embarrassed.

In uncomplicated cases, closed reduction should be done if possible. This is usually not difficult and can be easily accomplished by traction and pressure over the lower end of the femur with countertraction to the leg and upper end of the tibia in the opposite direction of displacement. Increasing the deformity is dangerous, as the vessels that are already on their maximum stretch may rupture. Continuous traction likewise should be avoided, as the ruptured ligaments may become permanently elongated.[7]

Ether or gas anesthesia should be used if the patient's condition warrants a general anesthetic. Some cases cannot be reduced by the closed method and require open reduction. A narrow tear in the joint capsule or an interposed semilunar cartilage is most often the cause of the irreducibility.[8] Immediate open reduction should be resorted to if closed reduction is impossible.

Compound dislocations should be reduced and the wound cleansed, debrided and sutured. A ruptured artery is a serious complication. As previously stated, when there is swelling in the popliteal space and an absence of pulsation in the dorsalis pedis and posterior tibial arteries, a ruptured popliteal artery should be suspected and exploration performed. Small openings in the artery may be sutured, but larger ones require ligation of the artery and vein whether the vein is ruptured or not. Even then gangrene may result and an amputation above the knee may be necessary.[5]

When the dislocation is reduced, a plaster cast should be applied to extend from the base of the toes to include the hip, with the knee in slight flexion, except in posterior dislocations, when the knee should be fully extended. Circulation of the foot should be closely observed. The cast should be cut immediately if circulation is impaired. In most cases prolonged immobilization should be carried out, and this usually means from six to eight weeks. At the end of this time the cast is removed or bivalved and active motion and massage are carried out. The patient is then fitted with a brace (fig. 4 *A*), which is attached to the shoe and has a detachable support about the waist with a lock joint at the knee, so constructed as to permit motion only when the patient flexes the knee. Weight bearing with crutches, physical therapy, active motion and hot baths should be continued over a long period of time.

Special attention should be given to the development of the quadriceps and hamstring muscles, especially the quadriceps. We feel that this is the most important factor in stabilizing the knee joint after extensive lacerations of the ligaments. We do not favor immediate open operation and attempt at repair of the crucial or other ligaments. We feel that this radical step is not justified in the face of results that we and many others have obtained by the closed reduction.

PROGNOSIS

The prognosis in dislocations of the knee as to life is good in uncomplicated cases. When complicated by rupture of the popliteal artery, gangrene occurs in from 35 to 40 per cent when ligation is done and in an even higher percentage when it is not done.[5] Compound dislocations of the knee are serious because of disturbance to the circulation and infection, which may result in death. Shock alone has caused death in these cases. The end functional result varies; but in uncomplicated cases, if early and proper treatment is carried out, there should result a painless, stable knee with moderate and sometimes full motion.

REPORT OF CASE

T. M., a white man, aged 57, 5 feet 4 inches in height (163 cm.), admitted to the Employees Hospital, Nov. 1, 1934, stated that about one hour before admission he stepped into a hole about knee deep, at the bottom of which was a rotating sifting metal basket, similar to a rotating wheel. His foot was caught in the rotating basket and was twisted around, causing a severe injury to his left knee. On examination the patient was perfectly conscious with no evidence of any injury other than that of the left knee. He was not in severe shock. Examination of the left knee revealed a very striking deformity. Photographs of the dislocated knee (fig. 2) taken immediately follow-

7. Campbell, W. C., in Lewis, Dean: Practice of Surgery, Hagerstown, Md., W. F. Prior Company, Inc., 1931.

8. Ruppaner: Deutsche Ztschr. f. Chir. 88:534, 1906.

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ing admission to the hospital are, so far as we know, the first ever to be published of a dislocation of this type.

The width of the region of the left knee was twice that of the right. The left leg was 2 inches (5 cm.) shorter than the right. The upper end of the tibia was completely lateral, externally, to the articular surface of the lower end of the femur. The condyles of the femur and the intercondylar notch could easily be seen and palpated under the tightly stretched skin. Pulsations in the posterior tibial and dorsalis pedis arteries were normal, and there was no evidence of any disturbance of circulation in the foot. There was no compounding of the wound or other complications. There was every evidence of a complete external lateral dislocation of the knee joint.

Roentgenographic views were in accordance with the physical manifestations; that is, a complete external lateral dislocation of the knee with an overlapping of about 2 inches and a small associated chip fracture of the internal condyle of the tibia (fig. 3).

Fig. 4.—*A*, type of brace used after the removal of the cast. Note that the brace is attached to the shoe and extends to the hip, being supported by a leather band around the pelvis. There is a lockjoint at the knee, which prevents lateral motion but allows full flexion of the knee joint. *B* and *C* show the results eight months after injury, at which time the brace has been entirely discarded. The left knee is stable and painless. The patient had about a 30 degree flexion of the leg at the knee joint at that time. The patient can walk up and down steps.

The patient was immediately taken to the operating room and under nitrous oxide anesthesia the dislocated knee was reduced. Traction and slight abduction of the leg were carried out by one of us, while inward pressure on the outside of the upper part of the leg and countertraction was performed by the other. The leg was then held in reduction, while a plaster spica cast was applied over sheet cotton extending from the hip down to the base of the toes, with the knee in slight flexion.

After six weeks the cast was bivalved and massage and physical therapy were begun, with active motion. In the seventh week a brace was fitted (fig. 4*A*), which was attached to the shoe and extended above the hip, having a lock joint at the knee. The patient was then allowed to be out of bed and he began weight bearing with the aid of crutches. He was discharged from the hospital Jan. 23, 1935. Crutches were discarded on March 27, but he continued walking with the aid of the brace.

The brace was discontinued July 15 (fig. 4 *B* and *C*) and the patient has been walking without any support since that time. He now has a stable, painless knee with about 30 degrees of flexion, with full extension of his leg at the knee joint.

COMMENT

According to Huber, Yaffee and Podlasky,[9] Hey Groves advised operation and repair of the ligaments. Sir Robert Jones did not recommend any special treatment but emphasized prolonged immobilization. Meadows, quoted by Huber [9] cites a case in which he reduced a dislocation and applied an elastic bandage. The patient was discharged on the third day and was symptom free and walking in twenty days. This short convalescence must be unusual.

We do not believe in immediate open operation in view of the results obtained by us and many others. Weigel [10] reports the case of an anterior dislocation in which closed reduction was performed and the end results were excellent. Bennett, in discussing this case, stated that the crucial ligaments are not as important as they were once thought to be. Armitage Whitman, in discussing the same case, minimized the importance of the crucial ligaments and stressed the importance of developing a strong quadriceps muscle. We are heartily in accordance with Whitman's views. Whitman was also frank enough to admit that he had operated on a patient, doing a fascial transplant with poor results.

It is our opinion that dislocations of the knee should be treated conservatively; that is, by closed reduction and prolonged immobilization. We also believe that development of the muscles, especially the quadriceps, is of supreme importance, since they have a great deal to do with stabilizing the knee.

9. Huber, H. H.; Yaffee, A., and Podlasky, H. B.: Traumatic Dislocation of the Knee Joint: Report of a Case, Radiology 7: 431-435 (Nov.) 1926.

10. Weigel, E. W.: Complete Dislocation of Knee, Am. J. Surg. 24: 140-141 (July) 1930.

SUMMARY

1. Complete dislocation of the knee joint is an unusual injury. Anterior and posterior dislocations are the most common types of dislocations.

2. Uncomplicated dislocations are usually simple to reduce, and the reduction should generally first be attempted by the closed method, with the knee kept immobilized for from six to eight weeks.

3. Serious complications may occur which necessitate open reduction, ligation of blood vessels or even amputation.

4. We do not favor open operation and attempt at repair of the crucial ligaments. Muscular development is highly important in stabilization after a complete dislocation of the knee.

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AN EPIDEMIC OF INFECTIOUS DIARRHEA IN THE NEW-BORN

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The term infectious diarrhea is used to designate a syndrome characterized by a sudden onset of diarrhea, slight fever, dehydration, complications of the ear and respiratory tract and a high mortality. It is a distinct entity and is not to be confused with dysentery, summer diarrhea, gastrocolitis or enterocolitis. No specific organism has been isolated to account for this syndrome nor is there a characteristic pathologic picture of the gastro-intestinal tract to be noted in the necropsies. The data obtained from our study of thirty-two new-born infants who were stricken with this disease are herewith presented, first because of the tremendous havoc an epidemic of this sort may play in any nursery and secondly to acquaint the general practitioner with a condition that may be readily encountered in routine obstetric and new-born practice.

PREVIOUS EPIDEMICS

Within the last year four such epidemics occurred in different institutions in New York City and its vicinity. A review of the literature disclosed but two references that deal to some extent with this particular condition, while the pediatric textbooks are entirely lacking in information on this subject.

In 1928 the Dicks and Williams[1] reported an epidemic at the Cradle, an institution which takes care of homeless infants from birth until their adoption. It is a model institution with adequate nursing facilities. This outbreak was characterized by marked dehydration, diarrhea and toxemia. In many of the infants the diarrhea was associated with otitis media and mastoiditis. Eighty-one babies contracted the disease, of whom twenty-seven died, giving a mortality of 31 per cent. Routine bacteriologic studies of the stools did not reveal any definite organism that could be held responsible for the intestinal infection. However, toward the end of the epidemic a new method of culture was adopted and in five cases the Morgan bacillus was recovered. They concluded, therefore, that this epidemic was a primary infection of the intestinal tract caused by the Morgan bacillus. That inference may be questioned, since the study was not properly controlled. The outbreak lasted for several months and did not end until freshly boiled milk formulas were substituted for the various dried milks then used in the institution.

In 1930 Jampolis, Howell, Calvin and Leventhal[2] reported a study of thirty-four cases of diarrhea in the nursery of the Michael Reese Hospital. The epidemic lasted from February until the middle of June, during which time fourteen babies died, a mortality of 42 per cent. The clinical pictures of the sick infants were characterized by a marked alimentary intoxication, dehydration and high temperature. Stool cultures revealed Bacillus mucosus as the etiologic agent only toward the end of the second outbreak. This organism was traced to three of the attendants connected with the nursery.

In 1934 a similar epidemic broke out in a New Jersey institution.[3] The morbidity and mortality were very high. Bacteriologic studies did not uncover the cause of the infection. Several months later in a Queens County hospital an epidemic occurred, which persisted for several weeks. This one was identical with the others so far as the symptomatology and lack of causative organism were concerned. It required closing the nursery in order to stamp out the infection. Of the twenty-six patients that were ill, seventeen died.

In February 1935 an epidemic of infectious diarrhea appeared in the nursery of a Brooklyn hospital. During the first month only a few babies contracted the disease and the infection apparently subsided. The following month the number of cases assumed epidemic proportions, spreading from the ward nursery to the private nursery on the floor above. This series of cases was characterized by a low-grade fever, loose stools and signs of upper respiratory infection. Several babies had otitis media, while others had bronchopneumonia. Vomiting was a prominent feature and intestinal intoxication was apparent. Continuous intravenous medication was to no avail. Of the thirty-three infants who contracted diarrhea, twenty-three died. The epidemic was not checked until the nurseries were closed. Intensive bacteriologic studies of the stools and nasopharyngeal secretions were carried out in the hospital laboratories and rechecked by the New York City Health Department Laboratories, but no etiologic organism was found.

During this time a similar epidemic was raging in the nursery of a Manhattan hospital. Here too the morbidity and mortality were high and again thorough study failed to expose an organism. At the time of this writing three more epidemics are raging in large hospital nurseries in New York City.

CLINICAL REPORT

It is quite evident that infectious diarrhea in the new-born is a definite clinical entity and may occur in epidemic form in well regulated hospital nurseries; also that, despite the intensive investigations, the mode of transmission and the causative agent have not been determined.

Read before the Bronx Pediatric Society, Oct. 9, 1935.
From the Pediatric Department of Morrisania City Hospital.

1. Dick, G. F.; Dick, Gladys H., and Williams, J. L.: The Etiology of Enteritis Associated with Mastoiditis in Infants, Am. J. Dis. Child. 35:955 (June) 1928.

2. Jampolis, M.; Howell, Katharine M.; Calvin, J. K., and Leventhal, M. L.: Bacillus Mucosus Infection of the New-Born, Am. J. Dis. Child. 49:70 (Jan.) 1930.

3. The names of the institutions are omitted, since no report of the epidemic has been publicized.

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The outbreak of infectious diarrhea in the nursery of Morrisania Hospital began July 10, 1935. The census at the time was forty-three infants. Of these, thirty-two infants, which included four premature infants, contracted the disease. Fourteen babies died. July 20 the epidemic terminated abruptly. The morbidity, then, was 74 per cent and the mortality 43 per cent.

All the infants who were subsequently stricken had been thriving normally, when the first manifestation of illness was a slight anorexia. Ordinarily the refusal of a feeding by a new-born infant is not considered an alarming symptom and is very often overlooked in a nursery. However, when it is associated with a low-grade fever, investigation is always imperative. The temperature was not, as a rule, high during the course of the epidemic. This was so in both the mild and the severe types of cases. In eighteen infants the temperature range was from 98.2 to 101 F.; in the others it ranged from 101 to 103, as shown in the accompanying table.

Diarrhea appeared almost from the very onset of the disease. The average number of stools per day was six, the largest number in any case being twelve. The stools were yellow or greenish, watery, and explosive in character with many bubbles, resembling fermentative stools. Slight mucus and curds were present, but no blood. The reaction of the stools was markedly acid to litmus paper. This apparent fermentation of the stools was not due to excessive amounts of sugar, as the supplementary feedings were made of similac, to which sugar is not added. The marked acidity of the stools may probably have been due to fatty acids resulting from an interference with proper fat absorption in the intestinal tract. It was interesting to note that the reaction of the stools ran parallel with the general condition of the infant. We soon learned from clinical observation that when the reaction became alkaline the number of stools diminished and they were of a better consistency. The change in reaction in

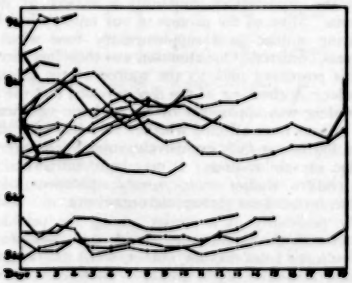

Chart 1.—Weight curves from onset of diarrhea in infants who recovered.

most cases occurred at the end of forty-eight hours. In no instance did the stool become alkaline in the fatal cases. In one case an infant who began to improve, having alkaline reaction of the stools, suddenly showed a reversal of the reaction and a relapse of the diarrhea occurred.

Vomiting was not a special feature of this syndrome. Only a few infants vomited excessively. The average loss of weight in the infants who recovered was 8 ounces (225 Gm.). It is to be noted that the loss of weight, which was only gradual, occurred mainly in the heavier babies. The loss in the small infants was insignificant, which is the usual experience under normal circumstances (chart 1). Dehydration was only moderate in the uncomplicated cases. In the fatal ones (chart 2), however, water loss was rather marked and rapid. The average loss of weight was 23 ounces (650 Gm.). Even babies under 5 pounds (2,268 Gm.) lost considerably. Intoxication, on the other hand, did

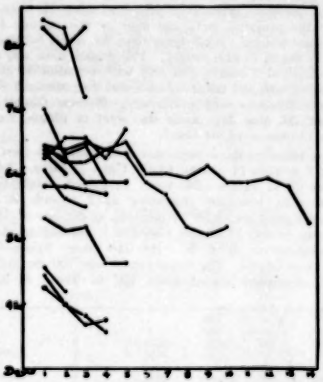

Chart 2.—Weight curves from onset of diarrhea in infants who died.

not play an important rôle in this epidemic; only one infant was moderately toxic. In other words, this syndrome did not present the characteristic picture of alimentary intoxication.

The age at the onset of the diarrhea varied from 2 to 20 days (chart 3). The fact that seventeen infants developed diarrhea on the sixth day after birth indicated a short incubation period for this infection. The duration of the illness was from six to twenty-six days, the average time for recovery being ten days.

The complications were mainly those related to the respiratory tract. Seventeen infants showed evidence of either catarrhal or purulent otitis media. The ear infection occurred in most instances at the beginning of the disease. In the others it developed soon after the diarrhea was established. In no case was the ear infection a terminal manifestation. Myringotomy was performed in all cases of otitis media. In a few infants free drainage was established. Anthrotomy was advised in one instance in which the aural drainage was profuse, but the infant died of bronchopneumonia before the operation was performed. Thirteen infants developed clinical evidence of pneumonia. Eleven of these infants contracted this complication in the early stages of the disease. In the others it was a terminal pneumonia.

To illustrate the type of cases we were dealing with, we are presenting two case reports. One represents the milder and uncomplicated type, while the other typifies the severe case complicated by pneumonia or otitis media:

CASE 1 (recovered).—K., a boy, was 15 days of age at the onset of diarrhea. He was a full term infant delivered by forceps. Nothing abnormal was noted in his physical exam-

ination except a subperiosteal hematoma. Roentgenographic examination of the skull failed to reveal any abnormality of the bones. Circumcision was performed on the eighth day without any ill effects. After an initial loss of 8 ounces (227 Gm.) during the first four days, he regained his birth weight by the tenth day, 7 pounds 3 ounces (3,260 Gm.). July 10, at the age of 14 days, slight anorexia was noted. The next day he had an elevation of temperature to 101 F., associated with loose, greenish yellow, acid stools. Up to this time he had been receiving breast milk and similac. These were replaced by a half ounce (15 cc.) of protein milk, with 3 per cent carbohydrate, alternating with one-fourth ounce (8 cc.) of 1 per cent saline solution, given at hourly intervals. He was transferred to the pediatric ward and kept on this routine feeding under aseptic technic. After three days the stools became alkaline and he began to gain weight. The protein milk was gradually increased to 3 ounces (90 cc.) with an addition of 5 per cent carbohydrate, and saline solution was discontinued. Finally, evaporated milk was used exclusively. He was discharged as cured July 20, nine days after the onset of illness, weighing 7 pounds 13 ounces (3,544 Gm.).

Case 2 (died).—R., a boy, was a normal full term baby, weighing 7 pounds 14 ounces (3,572 Gm.) at birth. After an initial loss of 12 ounces (340 Gm.) he gained weight for two days and then remained stationary at 7 pounds 6 ounces (3,345 Gm.) until the onset of diarrhea at the age of 15 days. On this day he lost 12 ounces (340 Gm.) and had an elevation of temperature to 102.6 F. He had seven loose, watery, greenish, acid stools. The temperature was 100 the following day and afterward varied from 100 to 98.6. A bilateral

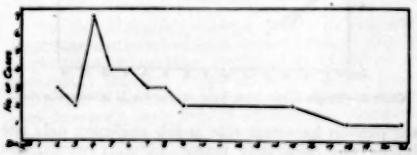

Chart 3.—Age at onset of diarrhea.

myringotomy was performed two days after the onset of illness. No exudate was noted at first, but two days afterward a mucoid discharge was seen in the left ear. The patient did not respond to the routine treatment and began to vomit. A starvation period was instituted, a stomach lavage was done and fluids were given by hypodermoclysis. Following this procedure the baby retained alternatively small quantities of protein milk and saline solution. On the third day of illness, signs of bronchopneumonia were elicited over the left lower lobe. His general condition was critical. Oxygen therapy was instituted. The pneumonia subsequently migrated to the right upper lobe. Extreme cyanosis, pallor and marked respiratory embarrassment, with terminal pulmonary edema then followed. There was a loss in weight of 26 ounces (737 Gm.). A postmortem examination revealed bilateral bronchopneumonia, parenchymatous degeneration of the liver, heart and kidneys, and an acute splenitis, while the gastro-intestinal tract showed no characteristic changes.

PROGRESS OF THE EPIDEMIC AND METHOD ADOPTED FOR ITS CONTROL

July 10, we were informed that two of the premature infants were having frequent diarrheal stools. Examination revealed that one showed some evidence of an infection of the upper respiratory tract with involvement of the right ear. The infants were isolated and isolation precautions ordered. The next day two more infants developed diarrhea. The gravity of the situation was then realized and it became evident that we were dealing with an impending epidemic. In view of the fact that these infants, in addition to the gastro-intestinal disorder, also presented evidence of infection of the upper respiratory tract, the consensus was that we were not confronted with a primary intestinal infection but with a symptom complex parenteral in origin.

In the hope of checking the spread of this infection, the following procedure was instituted: All the infants affected were immediately transferred to the pediatric ward from the nursery. A special nursing staff was assigned to these children. Face masks were worn by this entire staff. The nurses were required to put on a fresh pair of sterile rubber gloves for each feeding of each infant, for it is conceivable that the hands which may have become contaminated in changing the diapers of an infected baby might, in spite of washing, contaminate another in the process of applying the nipple to a bottle. Evaporated milk mixtures were substituted for similac.

Despite these precautions, three more infants came down with diarrhea in the next two days. Evidently all the infants in the nursery had already been exposed and consequently could not have been benefited by the measures instituted. Therefore, all the recently newborn infants were placed in a separate isolated room and were taken care of by special nurses, who did not come in contact with the nursery infants.

As we watched the rapid spread of the epidemic from day to day we were impressed with the idea that we were dealing with a condition similar to an airborne disease of apparently short incubation period. This belief was further strengthened by what occurred the following day. In addition to the new cases of diarrhea in the nursery, an infant who had been kept alone in a distant isolation room for some time on account of gonorrheal ophthalmia, and had been cared for by a special nurse, developed diarrhea and a clinical picture similar to those cases in the nursery. All our efforts to curb the epidemic had apparently failed. The nursery, therefore, was closed on the fifth day of the seige and the search for an etiologic factor, which was begun on the third day, became an intensive study.

In their bacteriologic studies of dried milk employed in infant feedings, the Dicks [4] had found that cultures from the preparations contained a variety of living bacteria. Most of the infants in our nursery had been receiving similac as a supplementary food when the outbreak occurred. Our attention was therefore directed to this powdered milk as the source of the intestinal disorder. A check-up of the diet revealed that the type of feeding was apparently of no etiologic significance. The infants were affected whether they had been previously fed breast milk exclusively, mixed feedings with similac, or similac alone. It may be of interest to note that culture studies from several specimens of the similac revealed no pathogenic organisms.

The possibility of a carrier among the persons in contact with the infants was considered. Nasopharyngeal cultures from doctors, nurses, ward maids and the infants themselves were studied. These cultures were negative for the Friedländer bacillus, Bacillus coli, staphylococcus and streptococcus. Cultures were made from the stomach washings of two infants who had persistent vomiting. In both of these examinations B. coli was found. This unusual finding would suggest that this syndrome might be associated with a decrease in gastric acidity and thereby favored the growth of the colon organism. It was deemed unwise to make gastric analyses in these infants because their

4. Dick, G. F., and Dick, Gladys H.: The Bacteriology of Dried Powdered Milk Preparations Employed in Infant Feeding, Am. J. Dis. Child. 34:1040 (Dec.) 1927.

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general conditions did not warrant it. The blood cultures taken from several babies who were gravely ill gave uniformly negative results. B. coli was found in cultures taken from the umbilical cords. This is not an unusual finding. Cultures from the rubber nipples, as well as from the nipples of the mothers' breasts whose infants developed diarrhea, were negative. Cultures taken following paracentesis of the eardrums in all cases of otitis media revealed B. coli in three instances and Staphylococcus albus in three others.

In order to determine whether this disease was a primary infection of the intestinal tract, repeated stool cultures were taken from all the infants. These were examined for organisms commonly associated with primary intestinal disorders such as typhoid, paratyphoid and B. enteritidis infection. With the exception of a positive culture in one infant, all were negative.

The culture of the stool of this infant contained an organism which apparently belonged to the paratyphoid group but agglutinated for typhoid. The exact organism in this case has never been satisfactorily identified.

Stool cultures from the nurses and interns assigned to the nursery disclosed normal results. The stool of one nurse was positive for the bacillus of paradysentery, Flexner type, on one occasion. The agglutination test in this case was also positive for the organism. Subsequent examinations of this nurse's stool failed to show the presence of the organism again.

Cultures were made from various levels of the intestinal tract at necropsy. These revealed only B. coli. Staphylococcus albus was found in the lung abscesses in two cases. Cultures from the various organs yielded no abnormal observations.

All these bacteriologic studies were corroborated by the laboratories of the New York City Health Department.

TREATMENT

Treatment had little effect on those babies whose illness was complicated by pneumonia. The disease took a high toll of infant life irrespective of the type of treatment employed. This has been the experience in the other institutions as well. For instance, in the Brooklyn epidemic, in which continuous venoclysis and transfusion were employed, the mortality was higher than ours, in which intravenous therapy was not used.

In vomiting infants the treatment was begun with the cessation of all attempts at feeding for twenty-four hours. Stomach lavage was done only when the excessive vomiting could not be controlled. The necessary amount of fluid to prevent dehydration was given subcutaneously. After the vomiting stopped the infants were treated according to the plans outlined later.

Summary of Observations

Case No.	Birth Weight		Lowest Weight		Weight Loss, Ozs.	Dehydration	Intoxication	Days to Regain Weight from Onset of Illness	Age at Onset, Days	Duration of Illness, Days	Temperature Onset, F.	High Temperature, F.	Outcome
	Lbs.	Ozs.	Lbs.	Ozs.									
1	7	8	7	7	1	.....	.....	No loss	3	13	98.6	100.4	Recovered
2	5	4	4	15	5	.....	.....	No loss	18	14	98	99.2	Recovered
3	8	..	7	5	11	.....	.....	No loss	5	3 A.O.R.	99	100	Recovered
4	..	..	..	..	..	.....	.....		1	9 A.O.R.	99.4	100.4	Recovered
5	7	13	3	11	18	.....	.....	..	8 Prem.	4	100	101	Died
6	7	12	6	11	17	.....	.....	..	5	15	98.6	103	Recovered
7	7	14	6	4	26	Present	.....	..	15	6	100	100	Died
8	7	11	5	14	29	Present	.....	..	7	4	100	103	Died
9	..	..	..	..	..	.....	.....	..	2	5 A.O.R.	98.4	102	Died
10	7	4	6	14	6	.....	.....	No loss	2	7 A.O.R.	99	101.4	Recovered
11	7	7	6	9	14	.....	.....	16	4	21	98.2	103	Recovered
12	6	11	6	10	1	.....	.....	No loss	6	3 A.O.R.	98.6	100	Recovered
13	5	11	5	1	10	.....	.....	13	7	14	99	102	Recovered
14	6	8	5	1	23	Present	.....	..	6	10	99	102	Died
15	5	7	4	3	29	Present	.....	..	6 Prem.	2	100.4	101	Died
16	6	15	5	8	23	Present	.....	..	6 Prem.	2	99.4	100	Died
17	7	7	5	14	25	.....	.....	..	9	4	99.8	102.2	Died
18	8	11	8	11	..	.....	.....	No loss	21	3 A.O.R.	99.2	101.2	Recovered
19	5	2	5	1	1	.....	.....	8	5	24	98.6	100	Recovered
20	6	10	5	4	22	Present	Present	..	4	14	98.2	100.2	Died
21	7	2	6	10	8	.....	.....	2	5	12	98	99.6	Recovered
22	5	13	4	10	19	Present	.....	..	5	4	99.8	101.8	Died
23	9	11	7	15	28	Present	.....	..	9	3	101.4	104	Died
24	5	..	3	9	25	Present	.....	..	4	4	98.6	102	Died
25	7	11	6	..	27	Present	.....	..	8	3	99	101	Died
26	8	12	8	7	5	.....	.....	No loss	4	1 A.O.R.	100	100	Recovered
27	..	..	..	..	..	.....	.....	No loss	2	12	98.6	100.2	Recovered
28	8	15	7	..	31	Present	.....	15	6	28	98	103	Recovered
29	8	8	8	2	6	.....	.....	No loss	7	2 A.O.R.	99.2	99.2	Recovered
30	8	3	7	2	17	.....	.....	3	4	10	101	102.4	Recovered
31	9	2	7	3	31	Present	.....	3	6	3	99	103.2	Died
32	7	1	7	1	13	.....	.....	..	0	2 A.O.R.	98.4	102	Recovered
Averages	7.035 lbs.		6.14 lbs.		16.85 oz.	11	1	7.3 days	6.7 days	10.15 days	98.996	101.3	18 recovered 14 died

A.O.R. = child released at own risk.

No starvation period was considered advisable in infants who suffered from diarrhea alone. It should be emphasized that continuous and protracted starvation leads to serious nutritional disturbances. We were aware of the fact, however, that these patients did better on small amounts of food given at frequent intervals, no attempt being made, for the first few days, to satisfy the full caloric requirement of the infant. The prevention and correction of the dehydration were considered of prime importance. We felt that the marked acidity of the stools indicated the employment of a food that would facilitate fat absorption and change the intestinal flora. Accordingly, the infants were given one-half ounce (15 cc.) of protein milk with 3 per cent carbohydrate alternating with 1 ounce (30 cc.) or more of 1 per cent salt solution every two hours. In this manner adequate amounts of fluid and salts were administered. It was not found necessary, in most cases, to resort to the hypodermoclysis. The protein milk and saline solution were well

taken and retained. Not only was the loss of weight being controlled, but in many instances there was an increase in weight within forty-eight hours. In order to investigate the presence of occult edema, the McClure-Aldrich[5] test was done in several selected babies. This test consists of an intracutapeous injection of 0.2 cc. of an 0.8 per cent solution of sodium chloride. The time required for the absorption of the bleb is usually fifty minutes in normal infants. If occult edema exists, the absorption is more rapid. Our cases showed no abnormal results. As the number of stools decreased, the amount of salt solution was diminished and a corresponding amount of protein milk was added to the diet.

In addition to the foregoing treatment, 5 minims (0.3 cc.) of epinephrine 1:1,000 was administered by hypodermic injection every three hours during the acute stage of the disease. This was done to prevent circulatory collapse with rapid pulse and falling blood pressure. A few days before the infants were discharged, their diet was changed to evaporated milk mixtures. Early paracentesis was done in all babies who presented pathologic appearances of the eardrums. Our impression was that this procedure did not alter the course of the disease.

NECROPSY RECORDS

Of the thirteen infants that died in the hospital, autopsies were obtained in twelve (92 per cent). The one infant for whom no postmortem examination was permitted had a bilateral purulent otitis media and died with signs of an extensive bronchopneumonia.

GROSS EXAMINATION

The lungs in most cases (ten) showed pneumonic consolidations, lobular in character, with areas of atelectasis and edema. In two instances, in addition to the pneumonia, the lungs also presented abscesses. In one of these there was an additional right-sided pleural effusion.

The spleens showed a constant picture in all the cases; namely, marked congestion and a diminution of the lymphoid tissues. Three cases presented areas of hemorrhage.

The gastro-intestinal tract showed a normal mucous membrane, no enlargement of Peyer's patches or mucoid follicles, no ulceration or lesions suggestive of dysentery or typhoid. The sole abnormal finding in five cases was the presence of hyperemic spots in the mucosa of the intestine, which was suggestive of enteritis. The other organs showed the characteristic changes of general toxemia. Parenchymatous degeneration was particularly noted in the livers, kidneys and hearts. No hemorrhages were found in the adrenals.

MICROSCOPIC EXAMINATIONS

The outstanding features of the microscopic pathologic examinations were as follows: The lungs on section showed partially collapsed air vesicles in some instances and exudation and edema in others. There was also an accumulation of cells, most of which were of the mononuclear or fibrocytic type. An occasional lymphocyte and polymorphonuclear leukocyte were seen. Neither the typical fibrin accumulation of the early stage of lobar pneumonia nor the marked polymorphonuclear reaction in the alveoli of late lobar pneumonia was observed.

The spleens showed marked congestion with hemorrhage, decrease in lymphatic tissue and an increase of the large mononuclear cells. These changes were noted in eleven cases.

The livers showed fatty infiltration in three cases and cloudy swelling in six. The kidneys showed cloudy swelling in seven cases and congestion in two. There was no definite lesion noted in the gastro-intestinal tract except a questionable erosion of the surface mucosa in two cases. One adrenal showed microscopic hemorrhage and congestion. The remaining organs presented nothing unusual.

CONCLUSION

Infectious diarrhea is a definite clinical entity that may occur during the neonatal period. Early realization of the seriousness of this intestinal disorder is imperative. Since reduction of the morbidity and mortality depends largely on the immediate measures taken to prevent the spread of an epidemic, early treatment of this disorder is necessary before the condition becomes grave as a result of dehydration and its associated toxicosis.

It is apparent that we were confronted with a specific syndrome limited to the neonatal period. This contention is based on the fact that no infant or older child exposed to the infection in the general pediatric ward succumbed to this disease.

In spite of careful clinical observations, intensive bacteriologic studies and postmortem examinations, we were unable to uncover the causative agent or the mode of its transmission to the new-born. The occurrence of these various epidemics without disclosing a uniform etiologic organism suggests the possibility of this syndrome being the result of a virus infection.

An interstitial type of pneumonia caused by a specific virus has been demonstrated experimentally in the lungs of a monkey.[6] As an atypical pneumonia was constantly present in our cases, Rivers, who has been investigating this question, suggested that a specific virus might be the causative agent in our epidemic. He believes that certain toxins of the colon bacillus may produce a clinical picture such as we have observed and an atypical pneumonia as observed in our necropsies.

SUMMARY

1. An epidemic of infectious diarrhea, parenteral in origin, occurred, thirty-two infants presenting a characteristic syndrome.

2. There was no relationship between the normal type of feeding and the incidence of the disease.

3. Dehydration was evident, but true alimentary intoxication was noted in only one instance.

4. Otitis media and bronchopneumonia as complications were frequent.

5. The severity of the disease decreased with the return of alkaline stools.

6. Bacteriologic studies failed to reveal a causative organism.

7. The administration of 1 per cent salt solution orally was well tolerated and obviated the use of the intravenous route for nutrition or medication.

8. Necropsies did not show a pathogenic picture in the gastro-intestinal tract to indicate a primary intestinal infection.

9. The finding of pneumonia with mononuclear infiltration in the absence of any intestinal lesions suggested the possibility of a virus infection.

1749 Grand Concourse.

5. McClure, W. B., and Aldrich, C. A.: Time Required for Disappearance of Intradermal Injected Salt Solution, J. A. M. A. 81:293 (July 29) 1923; The Intradermal Salt Solution Test, J. A. M. A. 82:1425 (May 3) 1924.

6. Personal communication to the authors.

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THE EFFECT OF IODINE IN ADENOMATOUS GOITER

WITH ESPECIAL REFERENCE TO TOXIC ADENOMAS

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There is some misunderstanding, even yet, among certain of the profession with regard to the action of iodine in the various types of goiter.

It is generally recognized that iodine in any form (we use aqueous solution of iodine, Lugol's solution, as a routine) causes a very beneficial response when used in exophthalmic goiter. This occurs practically without exception, but the iodine is especially useful in the preoperative treatment of exophthalmic goiter.

We do find "iodine fast" cases of exophthalmic goiter or patients who have been overtreated with iodine. These patients, as a result either of a developed tolerance to iodine or of excessive overactivity of the thyroid, finally reach a stage at which their toxic symptoms fail to recede with iodine medication and may even progress. We do not know just how or why this occurs, but it does occur. To be entirely on the safe side, one should not persist too long in iodine medication, even in exophthalmic goiter.

Our object in this paper, however, is to present again to the profession the effect of iodine in adenomatous goiter. It has been known for over a century that iodine administered in adenomatous goiter often resulted in injurious effects. Marine[1] notes that Coindet made this observation in 1821.

These "injurious effects," of course, are the development of symptoms of thyrotoxicosis brought on by the iodine. We have observed many of these cases and table 1 presents a partial list of such patients who have been operated on. The period of ingestion of iodine and the time of onset of symptoms are closely correlated, even though many of these patients have had nontoxic adenomas for years.

In a previous paper presented before the American Society for the Study of Goiter in 1924, one of us[2] presented a series of eighteen cases of adenomas of the thyroid made toxic by the use of iodine. The term iodine hyperthyroidism was suggested for this condition, which was presented as a distinct clinical entity. It was recognized that this syndrome had long been observed, Kocher[3] having described it as iod-Basedow's disease. Since this condition occurs only in the presence of an adenomatous goiter, and since it does not result from the use of iodine in a normal thyroid gland, the term iodine hyperthyroidism in an adenomatous goiter was suggested as best describing this entity. So great was the reputation of Kocher and so strong was the impression made on the medical profession of the associated danger of iodine and exophthalmic goiter that in spite of several reports in the literature to the contrary the use of iodine in exophthalmic goiter was thought to be attended with great danger, until Plummer pointed out this misconception in 1922.

From the Jackson Clinic.

1. Marine, David: Pathogenesis and Prevention of Simple or Endemic Goiter, J. A. M. A. **104**: 2334 (June 29) 1935.
2. Jackson, A. S.: Iodine as a Cause of Hyperthyroidism with a Report of Eighteen Cases, Journal-Lancet **44**: 324 (June 15) 1924.
3. Kocher, T.: Ueber Jodbasedow, Arch. f. klin. Chir. **98**: 1166, 1910; Verhandl. a. d. Gesellschaft f. Chir. **39**: 82, 1910.

Means and Lerman,[4] among others, have felt that hyperthyroidism was not induced in adenomatous goiter by the use of iodine. They say "we are very doubtful, however, of the existence of iod-Basedow, having never ourselves seen any convincing evidence of it."

Either the people of Boston must be educated to the point of refusing to take iodine in the presence of an adenomatous goiter or conditions there must differ from those in Switzerland, Ohio, Wisconsin and many other sections of this country as well as many other countries in which cases of iodine hyperthyroidism (iod-Basedow) in adenomatous goiter have been frequently observed.

Marine[1] states:

> There is sufficient evidence to show that there is a real danger in giving iodine to individuals with adenomatous goiter, and unquestionably the more concentrated iodized salts (from 1:10,000 to 1:5,000) cause injurious effects (iodine-Basedow's disease) in this particular group of patients, while such doses, as is well known, have no injurious effects in normal individuals or in individuals with simple parenchymatous goiter. The elimination of this group with long standing adenomatous goiter, I believe, will largely prevent the occurrence of iodine-Basedow's disease and remove the most important objection to generalized iodine prophylaxis.

Marine further calls attention to the reports of Plummer and of McClure, which showed a distinct increase in the number of goiter operations in the years 1926 and 1927 in Michigan and Minnesota. This increase occurred mainly in the group of patients with long standing adenomatous goiters (so-called toxic adenomas) who had undoubtedly received too much iodine.

This authoritative conclusion of Marine tends to confirm the contention[5] of the danger of induced hyperthyroidism in adenomatous goiter from the injudicious use of iodine, as pointed out by a series of eighteen such cases in 1924. At that time this contention was refuted by Plummer and others, but the literature of the past decade has contained numerous references indicating the danger of iodine in adenomatous goiter.

Thus Collier[6] states: "Iodine after 30 in individuals with adenomatous goiter does not cure and may precipitate hyperthyroidism."

Schwyzer[7] feels that iod-Basedow, as Kocher termed it, is a toxic condition. Such a patient looks emaciated, has tremor combined with nervousness, and is excited and anxious.

Clute and Mason[8] in an article from the Lahey Clinic reported having seen nontoxic adenomas become toxic after long continued iodine feedings.

McCarrison[9] opposes the indiscriminate use of iodine as a prophylactic measure as both unscientific and dangerous.

Dinsmore[10] has seen many cases of iodine hyperthyroidism.

Boothby[11] notes that unfortunately even now Kocher's warning against the danger of the administra-

4. Means, J. H., and Lerman, Jacob: The Action of Iodine in Thyrotoxicosis, J. A. M. A. **104**: 969-972 (March 23) 1935.
5. Jackson, A. S.: Iodine in Hyperthyroidism, J. Michigan M. Soc. **27**: 645 (Oct.) 1928.
6. Collier, F. A.: The Use of Iodine in the Treatment of Goiter, Ann. Clin. Med. **5**: 93 (July) 1926.
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9. McCarrison, Robert: The Etiology and Epidemiology of Endemic Goiter, in Report of the International Conference on Goiter, August 24 to 26, 1927, Bern, Hans Huber, 1929, p. 280.
10. Dinsmore, Robert: Personal communication to the authors.
11. Boothby, W. M.; Plummer, H. S., and Wilson, L. B.: Diseases of Parathyroid and Thyroid Glands, New York, Oxford University Press, 1925.

tion of iodine in adenomatous goiter is often not heeded and, as a result, many patients are rendered hyperthyroid.

As previously stated, Means and Lerman [4] express doubt that iodine will produce thyrotoxicosis. Reports of such cases in large number by various competent investigators, however, as well as our own studies and the accompanying tables, present satisfactory evidence to the contrary.

We hold to the opinion that iodine, injudiciously administered, may be and often is the precipitating factor in producing thyrotoxicosis from a previously nontoxic thyroid adenoma.

De Quervain [12] holds a similar view. He believes that whereas incredible quantities of iodine can be borne without any thyrotoxic disturbance by most individuals who have normal thyroid glands, with goiter sufferers it frequently happens that daily doses of from 0.5 to 1 mg. of iodine causes iod-Basedow to develop which lasts for months if not even for years.

We believe that this note of warning has not been without effect, and whereas it was a rather common practice ten years ago to use iodine freely for all types of goiter, the profession now has become more discriminating in the dispensing of this drug. As a result, cases of iodine hyperthyroidism are now becoming as unusual as are the crises in exophthalmic goiter. When the profession generally is cognizant of the danger of the prolonged use of iodine in exophthalmic goiter, as suggested in a report of fifty-seven cases including four deaths in 1930, we [13] feel that there will be a general lowering of the death rate in exophthalmic goiter throughout the country, just as there has been in iodine hyperthyroidism.

It has been shown that adenomatous goiter does not become toxic in patients less than 30 years of age unless this is brought on by the injudicious use of iodine.[5]

The study shown in table 1 is in line with this. Even though we present one case in which a woman, aged 29, had had an adenoma for fifteen years, it will be noted that she had been taking iodine for two years before the toxic symptoms became apparent to her. Thus a simple adenoma, even in a young individual, is a definite contraindication for iodine.

Especially do we want to call attention to the effect of aqueous solution of iodine in toxic adenomas. Although the literature since the publication of Plummer's epoch making article on the use of aqueous solution of iodine in exophthalmic goiter in 1923 has been voluminous, but scant mention has been made of the effect of iodine in toxic adenomas. In effect the action of iodine has been said to be variable and much less impressive.

Youmans and Kampmeier [14] of the University of Michigan, however, reported that the effect was essentially the same as that seen in exophthalmic goiter. Therefore, they concluded that no essential difference in the pathogenesis of toxic adenoma and exophthalmic goiter can be assumed to exist on the basis of their response to treatment with iodine.

Since the response to iodine in exophthalmic goiter and toxic adenoma is so essentially different, it is difficult to conceive the idea of those who maintain that these two clinical entities are but variations of the same disease.

Means and Lerman [4] also state that patients with toxic adenoma respond to iodine as do those with typical exophthalmic goiter and that this response is constant and specific and will occur at any stage of the disease.

We cannot concur with this belief at all. Our toxic adenoma cases show many instances in which not only was the basal metabolic rate increased after aqueous solution of iodine, but the various symptoms of hyperthyroidism were aggravated noticeably.

We do notice improvement in toxic symptoms, including the basal metabolic rate, in many of our cases

TABLE 1.—*Iodine Hyperthyroidism*

Sex	Age	Onset of Symptoms	Weight Loss, Pounds	Basal Metabolic Rate	Heart	Blood Pressure	Pulse	Iodine	Comment
♀	43	6 mos. ago	17	+21%	Tachycardia	142/ 88	96	6 months ago took tablets for 1½ months	Weakness, tremor
♀	56	3 months	15	+26%	Tachycardia	168/ 76	144	Iodine for 3 months from physician	Nervous, irritable
♀	53	2 years	20	+19%	Tachycardia	148/100	80	Iodine tablets 1 t.i.d. for 4 months 2 years ago	Weak, nervous
♂	66	1 year	45	+33%	Palpitation	172/ 98	96	7 bottles of home goiter cure last year	Weakness, tremor
♂	36	4 weeks	10	+29%	Tachycardia	154/ 90	136	10 drops t.i.d. for 30 days 6 weeks ago	Tired, weak
♀	29	1 year	7	+47%	Tachycardia	120/ 78	96	Iodine tablets in high school; also 4 tablets once daily for last 2 years	Nervous
♂	54	6 months	1	+41%	Palpitation	178/ 88	98	10 drops t.i.d. for 6 months	Marked weakness
♀	44	4 years	20	+32%	Tachycardia	140/ 80	102	Iodine tablets for 3 months 5 years ago	Weak, nervous
♀	61	1 year	20	+42%	Fibrillation	150/ 90	105	12 bottles and some tablets from advertising "specialist"	Weak, nervous
♂	66	3 weeks	18	+60%	Normal	188/ 88	110	Iodine for 3 months, 15 to 30 drops once daily	Weak
♀	69	4 months	10 3 months	+21%	Fibrillation	170/110	88	Iodine for 4 months, 15 to 30 drops	Weakness, tremor
♀	54	2 months	10 2 months	+33%	Tachycardia	170/ 90	96	15 to 30 drops iodine, once daily for 2 months	Nervous
♀	34	4 years	8	+40%	Tachycardia	130/ 88	120	4 years ago began taking iodine; for 2 years	Tremor

12. De Quervain, F.: The Pathological Physiology of Endemic Thyropathy, in Report of the International Conference on Goiter, Aug. 24 to 26, 1927, Bern, Hans Huber, 1929, p. 124.

13. Jackson, A. S., and Ewell, G. H.: The Danger of the Prolonged Use of Lugol's Solution, Am. J. Surg. 10: 475-481 (Dec.) 1930.

14. Youmans, J. B., and Kampmeier, R. H.: Effect of Iodine in Toxic Adenoma, Arch. Int. Med. 41: 66-74 (Jan.) 1928.

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following aqueous solution of iodine, but it is impossible to estimate just how much of this is due to rest, quiet, sedation and symptomatic treatment and how much is due to the iodine.

In a certain percentage of toxic adenomas, however, iodine definitely has a detrimental effect.

One of us (H. E. F.) has recently reviewed a series of 279 typical toxic adenoma cases in which operation was done at the Jackson Clinic between 1925 and 1935.

The basal metabolic rate is the most tangible factor available for estimating the degree of thyrotoxicosis, and we were able to make some interesting observations in this respect.

Our study shows that when we consider all the cases we might conclude that aqueous solution of iodine does have a beneficial effect because the average basal metabolic rate in the whole series was found to be decreased following iodine.

None of the patients in this study had a basal metabolic rate higher than +64 per cent before the administration of aqueous solution of iodine, and the average basal metabolic rate was +34.1 per cent. After the administration of aqueous solution of iodine no rate was higher than +56 per cent, and the general average had been decreased to +26.9 per cent.

Further study, however, reveals that approximately 62 per cent were benefited or were not affected and in approximately 38 per cent of the cases the basal metabolic rate, tremor, tachycardia and the like were definitely made worse by iodine.

Of those cases aggravated by aqueous solution of iodine, the basal metabolic rate increase varied from 1 to 13 points and averaged +5.8 per cent. If these patients had been continued on iodine, the basal metabolic rate would undoubtedly have become elevated still further and the symptoms of hyperthyroidism aggravated still further.

Table 2 presents from our study typical cases in which the basal metabolic rate and the toxic symptoms were definitely increased by the administration of aqueous solution of iodine.

Attention is directed primarily to the basal metabolic rate for purposes of comparison of the conditions before and after the ingestion of iodine.

Our observations on the effect of aqueous solution of iodine in toxic adenomas are similar to those of Goetsch,[15] who reported that in a series of thirty-eight cases 45 per cent either showed no change or were made worse.

Not only do our studies and those of Goetsch differ from those of Means and Lerman, but they are in marked contrast to those of Youmans and Kampmeier made at the University of Michigan. They reported that the response to treatment with iodine in thirty unselected patients with toxic adenoma who were previously untreated with iodine was essentially the same as that seen in unselected cases of exophthalmic goiter. In a later report from the surgical department of Michigan, however, Potter and Morris[16] reported that 3.6 per cent of the cases of toxic adenomas showed refractoriness to iodine or an accentuation of the symptoms (so-called iodine induced hyperthyroidism).

SUMMARY

1. There may be produced iodine fast cases of exophthalmic goiter.

2. Iodine not only does no good but is definitely contraindicated in nontoxic adenomas of the thyroid.

3. There is danger, in administering iodine in cases of adenomatous goiter, of producing "iodine hyperthyroidism."

TABLE 2.—*Cases of Toxic Adenomas Made Worse by Iodine*

Sex	Age	Basal Metabolic Rate: Before Aqueous Solution of Iodine	Basal Metabolic Rate: After Aqueous Solution of Iodine	Heart	Blood Pressure	Pulse	Comment
♀	38	+15%	+24%	Tachycardia, dyspnea	160/ 85	91	Tremor, nervousness
♀	41	+40%	+42%	Dyspnea	156/ 90	120	Tremor, nervousness, weakness, adenoma for 30 years
♀	57	+22%	+33%	Palpitation	155/ 88	110	Weak; lost 25 pounds in 4 years; died 1 year after operation with toxemic heart disease
♂	62	+42%	+56%	Tachycardia, dyspnea	160/ 88	105	Weak; lost 40 pounds in 1 year
♀	61	+30%	+39%	Palpitation, auricular fibrillation	164/ 98	110 (irregular)	Lost 7 pounds in 2 months; weak
♀	27	+33%	+37%	Dyspnea, tachycardia	140/ 85	110	Weak, nervous, adenoma for 15 years
♀	60	+22%	+34%	Dyspnea, auricular fibrillation	160/ 90	114 (fibrillating)	Goiter 30 years; weak, nervous
♀	55	+33%	+33%	Auricular fibrillation	180/ 80	97	Had had three "nervous breakdowns"
♀	60	+17%	+23%	Past, extrasystoles	170/100	122	Tremor
♀	62	+30%	+50%	Auricular fibrillation, dyspnea	180/ 10	136	Tremor

4. Adenomatous goiter does not become toxic before the patient has reached the age of 30 unless the toxicity is brought on by the injudicious use of iodine.

5. We have shown that iodine may and does produce thyrotoxicosis in adenomatous goiter as opposed to the contention of Means and Lerman.

6. The effect of aqueous solution of iodine in toxic adenoma is not constant or specific and is not the same as that produced in exophthalmic goiter.

7. Approximately 62 per cent of all cases of toxic adenoma are benefited by iodine or are not affected, while 38 per cent are made worse.

8. In a series of cases of toxic adenomas, toxic symptoms and the basal metabolic rate were aggravated by aqueous solution of iodine.

9. Owing to its variability of action, we believe that iodine should be given as a routine in all cases of toxic adenoma before and after operation, because two thirds of the cases will be improved, and the harmful effect on the other third is negligible over a short time.

CONCLUSIONS

1. Iodine should not be given to patients with nontoxic thyroid adenomas.

2. The condition termed iodine hyperthyroidism is a definite clinical entity.

3. Aqueous solution of iodine has an inconstant effect in toxic adenomas.

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POPLITEAL ANEURYSM

WITH REPORT OF A CASE

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It is not generally known that, with the exception of aneurysms of the aorta, popliteal aneurysms are found more frequently than those of any other artery.[1] According to Matas,[2] they are by far the most frequent of the surgical and operable types of the disease. Because of this frequency, their characteristic rapid progression and the efficacy of proper surgical intervention, a brief review of the subject will precede the presentation of a case illustrating tragic characteristics of the disease.

The agencies that weaken or traumatize the walls of other arteries, causing their dilatation, may cause the same variety of aneurysms of the popliteal artery. Trauma is a comparatively frequent factor and usually results in arteriovenous aneurysms and false aneurysms the walls of which are not made of any tunic of the artery wall but are composed of blood clot and surrounding fibrous structures.[3] A false pocket or fistula may thus be formed. Arteriovenous communications are designated "aneurysmal varix" or "varicose aneurysm," according to whether the fistula is direct or has an interposed false aneurysmal sac.

Arteriosclerosis is frequently the only demonstrable disease of the dilated walls. Trauma or strain may precipitate the dilatation or the symptoms of these cases.[4] A spontaneous or traumatic tear through an atheromatous vessel wall is another source of false aneurysm.[5]

The statistics of Stokes,[6] Garland[7] and Lucke and Rea[8] reveal syphilitic aneurysms as being far more common in larger arteries. However, in spite of an appalling lack of histologic proof, the frequency of 4 plus Wassermann tests associated with popliteal aneurysms leaves little doubt as to the importance of this etiologic agent.[9] Septic emboli bearing a variety of bacteria theoretically may grow on the intima or in the vasa vasorum of any blood vessel and through erosion lead to a mycotic (infectious) aneurysm.[10] It is doubtful whether congenital aneurysms of this moderately large artery ever occur, and no report has been found of a dissecting aneurysm separating its relatively thin coats.

Because of its size and peculiar location it is thought that compression of the popliteal artery with the knees flexed and simultaneous exertion may put an unusually severe strain on its walls, causing small tears in the elastic fibers of the media in diseased vessels. There may be no immediate effect or, according to Delbit (cited by Matas[11]), it may be severe enough to cause prompt thrombosis of the artery. Repeated small tears may lead to its gradual weakening and dilatation.

As a whole, popliteal aneurysms vary from others in that they generally progress more rapidly and are subject to frequently unheralded, sudden complications. A laminated clot often partially fills the dilated lumen and rarely shows any evidence of fibroblastic organization. This clot may break loose and occlude the lumen, causing a dry gangrene. According to Matas,[11] spontaneous gangrene occurs more frequently with thrombosis of the popliteal variety than with any other aneurysm. Moist gangrene may result from mechanical interference with the venous as well as with the arterial circulation. Should the collateral circulation be sufficient, the thrombosed vessel may become organized and a rare cure result, or a later recurrence of the aneurysm may be found. Gradual stretching and absorption of ligaments and erosion of bone may proceed until the aneurysm ruptures externally into soft tissues or into the knee joint. This complication is a constant and serious menace in any case of this disease.[12]

The first symptoms noticed may be those of interference with moving the knee, complete flexion or extension becoming especially difficult and painful. There may be a slight dragging sensation in the leg for months, with no other symptoms. Mechanical interference with venous return results in edema. In a high percentage of cases, pressure on the adjacent popliteal nerve is productive of numbness and pains of varied severity and location. They may be quite deceiving and give no indication as to their source, as in the case of McKenna.[13] The demonstration of a popliteal mass with expansile pulsating walls and a loud bruit is diagnostic. Vascular tumors must at times be excluded. This is most satisfactorily accomplished by arteriography.[14]

Before the advent of modern surgery, hemorrhage and gangrene were feared in every case of popliteal aneurysm, and amputation was the only treatment. Hunter and Desault in 1785 both practiced proximal ligation, and this later became the widely accepted form of therapy. In brief, the present day management consists in promoting collateral circulation and testing the efficiency of this circulation, then surgical exploration and selective correction, followed by further stimulation of circulation.

Special clamps and methods have been devised by means of which occluding pressure can be exerted on the cardiac pole of the aneurysm. According to Matas,[15] Baker[5] and others, repeated systematic occlusion aids greatly in increasing collateral circulation. The application of metallic bands directly to the artery, producing partial occlusion above the diseased area, has

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been used by Matas [15] and Reid [16] with success. Lately sympathectomy as a preliminary has been advised by Bird,[17] Mulvihill and Havey [18] and Gage.[19] Passive vascular exercise or similar methods for the production of rhythmic positive and negative atmospheric pressures on the affected part have strong supporters.[20] The vasodilatory effect of whirlpool baths with warm water or of diathermy [21] may very well have a place in the treatment of popliteal aneurysms. In a study of 100 cases of sudden occlusion of the arteries of the extremities, McKechnie and Allen [22] advise three important "don'ts" in the treatment of these cases: "Don't delay treatment for more than two or three hours, don't elevate the extremity, and don't subject it to heat which exceeds by more than a few degrees the temperature of the body." The extremity should be protected from drying by bandages when heated under a cradle or by other forms of dry heat. Opiates, alcohol and papaverine hydrochloride may relieve pain and increase peripheral circulation.

Matas [23] stresses four methods of testing the efficiency of collateral circulation: (*a*) the hyperemic reaction or modified Moszkowicz color test; (*b*) the preliminary occlusion of the main artery close to the proximal pole of the sac, with pliable and removable bands; (*c*) oscillometric manometry, to determine peripheral blood pressure after temporary occlusion of the main artery; (*d*) clinical evidence of a persistent circulation and nutrition of the peripheral parts in spite of permanent absence of peripheral pulses.

After the preliminary stimulation of collateral circulation and satisfactory evidence of its sufficiency, a careful exploration of the aneurysm is indicated in the hope of performing a restorative or reconstructive type of operation particularly applicable to sacciform and certain traumatic cases in which a large portion of the circumference of the artery wall is in good condition. In other cases obliteration, ligation at one or both poles or ligation with excision is practiced. The most widely approved Matas [24] approach of endo-aneurysmorrhaphy has given the most excellent results. Here the vessel is entered, the communicating lumens are sutured closed and the aneurysm is obliterated by plication.

REPORT OF CASE

A white man, aged 64, married, a book auditor, admitted to the Bethany Methodist Hospital, suffered with a severe continuous pain in the left calf and popliteal space. Four years before he had stepped off a rather high platform, landing heavily on his feet and experiencing pain in the left calf and popliteal space. The pain recurred rather severely the next day and lasted several weeks, during which time he limped about. This incident had been forgotten and he had noticed no discomfort or disability except for pains in the calf muscles associated with excessive walking and relieved by a few minutes' rest. Suddenly, one day after he left his car and started up steps, there developed a most severe pain in the lower left popliteal area. There was a numbness and tingling in the unusually white, cold foot. Two quarter-grain (0.016 Gm.) doses of morphine were necessary to ease the excruciating pain.

He was found to be in excellent physical condition except for the leg. This was cold from the knee down, there was a loss of sensation of pain in the foot, and an area of hyperesthesia was found in the upper half of the lower leg. No pulsations were found in the popliteal, anterior or posterior tibial arteries on the affected side. In the same arteries on the right side the pulsations seemed weak. Nothing unusual was felt or heard in either popliteal space. Popliteal thrombosis resulting from arteriosclerosis appeared certain.

In spite of complete rest, local heat and dependence of the limb, there developed a dry gangrene resulting in a sharp line of demarcation just below the head of the fibula by the seventh day following the onset.

The temperature rose slightly, from 99.4 F. to 100.4 F. during this period. There was also a slight elevation of pulse rate from 88 to 100 per minute. The respiration rate remained normal. The blood pressure at the onset was 220 mm. of mercury systolic and in a few days varied from 120 to 140 systolic and 90 diastolic. There was a constant, mild leukocytosis of 13,500 white blood cells, with 80 per cent neutrophils. The red blood cell count and hemoglobin, as well as blood chemistry and Wassermann tests gave normal results. A few granular casts and a one plus albumin were constantly found in the urine. An electrocardiogram tracing was interpreted as showing left ventricular preponderance but no graphic evidence of serious myocardial damage.

Two thrombosed popliteal aneurysms.

A midthigh amputation on the eighth day was followed by an uneventful convalescence except for the development on the eighth postoperative day of pain and râles in the lower left portion of the chest, with a temperature of 101 F. and no change in respirations or cough. This complication subsided in a few days. The amputation stump had healed rapidly and completely and he was discharged on the twentieth postoperative day.

In brief, the pathologist's examination revealed the shriveled, dry, hard, black toes, soles and lower dorsal region of the foot with a dry, hard, gray-blue mottled lower leg below a line of demarcation in the middle upper third. The thrombosed popliteal artery had two aneurysms, as shown in the accompanying illustration. The smaller at the upper end measured 3.5 cm. long and 2.6 cm. in diameter, while the larger at the lower extreme measured 7 cm. long and 3.7 cm. in diameter. The aneurysms could be definitely palpated because of their size and position, being partially hidden by muscles. The popliteal vein and nerve were closely adherent to the aneurysmal sacs. Small arteries entering both sacs were thrombosed. The femoral artery contained a loose, dark red clot and had many small atheromas along its intima. The two tibial arteries were patent and had almost normally flexible, moderately sclerotic walls.

Microscopic sections from the aneurysmal walls showed extensive arteriosclerotic changes with hyalinization of the thickened intima and inner portion of the muscularis; also rather frequent deposits of cholesterin crystals and calcium in these hyalinized areas. Fat stains revealed an extensive fatty degeneration extending from the intima out, and in places tiny fat droplets filled the cytoplasm of cells through the entire breadth of the muscularis. Elastic stains showed a marked paucity, granularity and fragmentation of elastic fibers especially in regions in which hyalinization and fatty degeneration were most extensive.

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SUMMARY AND CONCLUSIONS

The relative frequency of popliteal aneurysms, their often rapid progression, the disastrous gangrene in unaided cases and the efficacy of proper management makes this an important subject for every physician who is likely to encounter the condition. The near hopelessness of an untreated case in which sudden thrombosis develops is illustrated in the case of popliteal aneurysm the result of arteriosclerosis with a probable factor of trauma.

EXPERIENCES IN THE SUMMER EPIDEMICS OF ACUTE ENCEPHALITIS IN TOKYO

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TOKYO, JAPAN

Outbreaks in the summer and early fall of an acute febrile disease with peculiar, meningitis-like symptoms and a high mortality rate have long been known in Japan. In the epidemic of 1919 a few years after the reports of epidemic (lethargic) encephalitis in Vienna had come from Economo, medical men and neurologists in Japan first realized that they had been dealing with a type of acute encephalitis differing in seasonal incidence and clinical manifestations from epidemic encephalitis common in Europe. In 1924 there was a widespread epidemic in Kagawa and other provinces, the largest one ever recorded, in which extensive clinical and pathologic investigations were carried out. Occurrence during the summer, abrupt onset with high fever, stormy course with meningitic as well as encephalitic symptoms, and only occasional, transient, ocular manifestations, rapid recovery leaving few residual effects such as parkinsonism, and a striking increase in both incidence and fatality rates with advancing age were mentioned in the reports as characteristic features distinguishing the Japanese type from the so-called "European" form. Kaneko and Aoki [1] classified the prevailing type as type B to distinguish it from type A or the Economo type. Futaki called it "summer encephalitis," differentiating it from the epidemic encephalitis of Economo. Takaki,[2] by transmission of the disease to rabbits, isolated strains of virus which he called "virus of encephalitis japonica," differentiating it experimentally from the various herpetic encephalitic viruses.

The epidemic encephalitis occurring in St. Louis and Kansas City during the summer of 1933 has recently been reported by Hempelmann,[3] McCordock,[4] Leake [5] and others as quite similar to the Japanese B type in clinical, pathologic and epidemiologic features. This information seems to conflict with the erroneous contention of some authors that the Japanese B type is unique in Japan. The results of etiologic investigation of Webster [6] and others have been very helpful in throwing light on the work of our scientists, who have been continuing their investigation of the etiology of epidemic encephalitis in Japan.

It is of interest here to note that during recent epidemics in Japan we have encountered some cases of the Japanese B type encephalitis in Europeans and an American, in concomitance with many other cases in Japanese inhabitants of Tokyo City. In the summers of 1929 and 1930, when a considerable number of acute cases of encephalitis occurred among Japanese, a Spaniard and a Russian afflicted with the B type were admitted to St. Luke's International Hospital. They both recovered within a month, showing no evidence of residual nervous damage. Toward the end of August 1935 there occurred a sudden outbreak of the same type of encephalitis, to the great surprise of medical practitioners as well as inhabitants of the metropolis, with 1,362 cases reported in this city by September 10. With the morbidity rate not more than 22 cases per hundred thousand of population, and the mortality rate less than 30 per cent, this epidemic has generally been regarded as much milder than the heaviest one of 1914 in Kagawa. Nevertheless, it has received special attention from clinicians and medical scientists of the city, as it was the first opportunity for them to observe closely as many cases at one time occurring near by or admitted to their own hospitals or medical institutions. To St. Luke's International Hospital we admitted two Russians and an American. The two Russian patients after stormy courses both died within a week, and the clinical diagnosis was verified by autopsy. The American, who showed a mild but typical clinical picture, is now convalescing.

All our patients were adults in the third or fourth decade of life. In three of them, who recovered, the onset of the illness was rather abrupt, with high fever, severe headache and meningitic or encephalitic symptoms, while in two fatal cases the initial rise of temperature was gradual, as in typhoid, without showing any evidence of involvement of the nervous system. These patients died within two days after typical clinical pictures of encephalitis had developed.

Fig. 1.—Perivascular accumulation of mononuclear cells in the thalamus of a Russian patient who died with the Japanese B type encephalitis in Tokyo, Sept. 2, 1935. Positive mouse test.

Early diagnosis in such cases is difficult. Among neurologic symptoms, neck rigidity, marked trismus,

1. Kaneko, R., and Aoki, Y.: Ergebn. d. inn. Med. **34**: 342, 1928.
2. Takaki, I.: Japan M. World **5**: 147 (June) 1925.
3. Hempelmann, T. C.: The Symptoms and Diagnosis of Encephalitis, J. A. M. A. **103**: 733 (Sept. 8) 1934.
4. McCordock, H. A.; Collier, William, and Gray, S. H.: The Pathologic Changes of the St. Louis Type of Acute Encephalitis, J. A. M. A. **102**: 822 (Sept. 15) 1934.
5. Leake, J. J.; Musson, E. K., and Chope, H. D.: Epidemiology of Epidemic Encephalitis, St. Louis Type, J. A. M. A. **103**: 728 (Sept. 8) 1934.
6. Muckenfuss, R. S.; Armstrong, Charles, and Webster, L. T.: Etiology of the 1933 Epidemic of Encephalitis, J. A. M. A. **103**: 731 (Sept. 8) 1934. Webster, L. T., and Fite, G. L.: J. Exper. Med. **61**: 103 (Jan.), 411 (March) 1935.

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rigidity of arms and occasionally also of legs with exaggerated tendon reflexes or with occasional transient paralysis, tremors of the tongue and hands, mental confusion, mental apathy and speech disturbances of aphasic nature were common in all cases. There was no ocular manifestation other than photophobia in two or three cases and transient unilateral ptosis of the eyelid in one case. The Kernig sign or Babinski reflex

Fig. 2.—Perivascular accumulation of mononuclear cells in the thalamus of a Japanese patient who died with the Japanese B type encephalitis in Tokyo, Aug. 27, 1935. A specimen from the same patient was used for the first successful transmission of the disease to mice.

was only occasionally demonstrable. Retention of urine or incontinence of urine and feces was present in two fatal cases.

Concerning the clinical course, the temperature, having reached a maximum exceeding 104 F., which occurred somewhat earlier than the fifth day of the disease, began to fall by lysis and in three cases reached normal within ten days of the onset. In one of these there was a secondary rise of temperature of the remitting type, which lasted for a week. This was not attended by aggravation of neurologic symptoms and was attributed to a pulmonary complication. These three patients recovered with few residual effects. Two patients died with severe respiratory failure within two days of encephalitic manifestations, when the temperature tended to fall. The deaths occurred on the fifth and the seventh day of the illness.

The spinal fluid examined at the height of the disease was clear, under moderately increased pressures showing moderately increased cell counts with mononuclear preponderance. In one of the fatal cases 72 per cent of 232 cells were found to be polymorphonuclear leukocytes in fluid obtained one day after the encephalitic symptoms set in with convulsive attacks. The patient died within a day after this test. Blood examination revealed moderate degrees of leukocytosis in all but one. In one fatal case, not the one just mentioned, there was no leukocytosis, although the blood was examined when the patient had a fever. The Schilling hemogram, however, showed a definite shift to the left. Bacterial cultures of blood and spinal fluid were all negative.

At autopsy the meninges were found to be edematous with a moderate increase in amount of the cerebrospinal fluid and with marked congestion of blood vessels. Cross-sections through the brains revealed obvious congestion of intracerebral blood vessels with pinkish discoloration of the gray substance of the cerebral cortex as well as basal nuclei or pons. Histologically there were perivascular accumulations of mononuclear cells (fig. 1), small focal collections of mononuclear cells with a few polymorphonuclear cells and degeneration of nerve cells in basal nuclei, pons and medulla. Also in the meninges there was an infiltration of mononuclear cells.

The clinical and pathologic manifestations in foreign patients with encephalitis were all comparable to those of many Japanese cases encountered during the same epidemics in this city. As a result of our experiences in the recent epidemic in Tokyo, we feel that we have further evidence that no clear distinction can be made between the Japanese B type and the reported St. Louis type.

With regard to etiologic factors, very little has been known concerning Japanese epidemic encephalitis. A long continued exposure to the direct effects of sunlight, mental or physical fatigue in hot weather and like causes have been blamed as contributing etiologic factors in ushering in the illness. But as the recent epidemic continued through cooler weather, the foregoing factors could not be held responsible for the onset of illness in many cases.

So far as the infective agent is concerned, we are now undertaking experimental studies according to those reported by Webster and others [6] of the St. Louis epidemic, which gave such successful results.

In our laboratory, Kudo and Uraguchi have inoculated mice intracranially, intranasally and intraperitoneally with brain emulsions obtained from three fatal cases in the hospital. The brain tissue was removed aseptically from the bodies kept overnight in the morgue, preserved in glycerin for from two to ten days in the icebox and then emulsified. The mice used for the experiments were white mice of the strains called German mice, available in this city. The emulsions of brain tissue were diluted with physiologic solution of

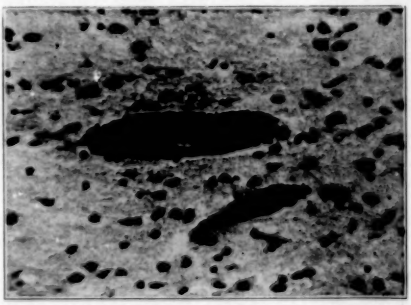

Fig. 3.—Perivascular accumulation of mononuclear cells in the brain of a mouse that died, showing characteristic encephalitic manifestations five days after the transmission of the disease from an infected mouse.

sodium chloride to about 10 per cent, of which 0.03 cc. was injected intracerebrally and from 0.2 to 0.5 cc. intraperitoneally into each mouse.

The first patient from which the brain tissue was used was a Japanese woman, aged 58, who had shown a clinical picture characteristic of Japanese B type encephalitis. She died in the hospital after four days, on Aug. 27, 1935. The clinical diagnosis was verified by autopsy (fig. 2). Brain tissue was preserved in glycerin for two days before it was emulsified. Follow-

ing combined intracerebral and intraperitoneal injections into twelve mice, they all remained apparently healthy for from four to seven days and then became hyperesthetic, showing first ruffled fur and then tremors, convulsions and peculiar motor disturbances, followed by prostration and death in from six to nine days.

Perivascular accumulations of mononuclear cells histologically demonstrable in their brains were comparable to those in the human brain. The brain tissue from infected mice was further inoculated by the same technic into the second series of healthy mice. These specimens proved bacteria free in aerobic and anaerobic cultures. After a three or four day incubation these inoculated animals also developed tremors, occasional convulsions, hyperesthesia and prostration and died in four or five days. Characteristic lesions were also found histologically in their brains (fig. 3).

Transmission of the disease from infected mice to healthy mice has been so far sucessfully carried through five successive series without any apparent decrease in the response to the inoculation. Berkefeld N candle (prodigiosus-fast) filtrates of brain tissue emulsions from the infected mice as well as the aforementioned human specimen have proved as readily infective as the original emulsions. Specimens of brain tissue secured from two Russian patients were also inoculated into mice after they were preserved in glycerin for six and ten days respectively. With the six day glycerinated specimen, transmission was successful, seven of nine inoculated mice dying in from five to eight days, and one in fourteen days. On the second transmission of the disease, animals died in from four to seven days. The third transmission also was successful. The series of animals into which the ten day glycerinated specimen was inoculated were still alive after more than two weeks, showing no response. Control tests with brain tissues obtained from healthy mice or from human patients who had died of other diseases were all negative.

Further investigations are now being conducted to determine whether or not the infectious agent thus isolated can be neutralized by serums of individuals convalescent from the encephalitis of the recent Tokyo epidemic. We have already secured a positive evidence for it. To establish this point, however, we shall have to await completion of the experiment.

As we have demonstrated experimentally that in the recent epidemic in Tokyo the disease can be easily transmitted from fatal cases of encephalitis to mice, and from mice so infected to successive series of healthy mice, and that the infectious agent thus obtained traverses Berkefeld N candles, we have been inclined to infer that the so-called Japanese B type encephalitis and the St. Louis type are similar, not only in clinical or anatomic characteristics but presumably also in the biologic nature of the infectious agent.

SUMMARY

In the recent epidemics of encephalitis in Tokyo, the Japanese B type occurring in occidentals was found to be similar in all respects to that contracted by the Japanese.

In the recent outbreak of encephalitis in Tokyo, the transmission of the disease to mice was found to present no difficulties, agreeing with the experience in the 1933 St. Louis epidemic.

The Japanese B type and the St. Louis type are alike not only in their clinical and pathologic features but also in etiology.

Clinical Notes, Suggestions and New Instruments

THE TREATMENT OF CHRONIC (TUBERCULOUS AND OSTEOMYELITIC) FISTULAS WITH SILVER NITRATE STICKS

ERNST FREUND, M.D., VENICE, FLA.

In his paper on the formation and disappearance of amyloid in man, Waldenström[1] writes the following paragraph:

"When a patient is admitted to the hospital he is given a few weeks to get accustomed to his new surroundings. During this time his fistulas are washed once or twice daily with a solution of 1 per cent iodine in benzine. This is done with exceedingly great care. The surrounding skin is also carefully washed and a large sterile dressing applied. Should the fistulas subsequently prove to be too narrow, causing the pus to stagnate somewhere, they are treated strongly with lapis. Should this prove insufficient, a method is adopted which I believe very excellent. A stick of pure silver nitrate, about 6 cm. long, is inserted into the fistula, its end coming just underneath the skin edges. The following day the stick is pulled out by a pair of forceps and accompanying it there comes out a rod of silver albuminate, sometimes as thick as a finger, consisting of the tuberculized wall of the fistula; the granulations soon become healthy at this place."

This method appealed to me because of its simplicity and I tried it out in about twenty cases during the last year. First I limited it entirely to cases of chronic bone tuberculosis complicated by chronic fistulas; later it was also tried in cases of chronic nonspecific osteomyelitis with sinuses, but roentgenologically without more active signs of bone infection. Healing of the sinus tract was not obtained in all cases, but in a number the results were very satisfactory. In one case of chronic tuberculous hip disease in which the surgical fusion was postponed for years because of a persisting sinus, the method proved especially beneficial; the sinus tract closed within a short time and fusion was performed without complications. I have not yet seen any damage from insertion of the silver nitrate stick; there is no resorption of silver, in the feces or the urine; there were not even traces, and only mild general symptoms. The first hour the patient complains of some burning sensation and headache and may even be a little restless the first night, but all discomfort disappears next day.

Fig. 1.—Three sinus tracts incrustated by silver nitrate, removed two or three days after insertion of silver nitrate sticks.

I proceed in the following way: The sinus tract is probed to determine its caliber and direction. If it is narrow, it is

From the Department of Orthopedic Surgery, State University of Iowa (Dr. Arthur Steindler).

1. Waldenström, Henning: On the Formation and Disappearance of Amyloid in Man, Acta chir. Scandinav. 63: 479 (Aug. 25) 1928.

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enlarged very gently and gradually with a straight hemostat. The silver nitrate stick is then inserted slowly, always following the sinus tract. Care should be taken not to produce a fausse route. If the sinus tract is longer than the ordinary silver nitrate stick, parts or the whole length of a second stick can also be inserted. The skin is then covered by a thick layer of zinc oxide ointment in a wide area around the sinus tract and

Fig. 2.—Microscopic cross section through sinus tract after silver nitrate treatment. Concentric precipitation of silver nitrate albuminates in the peripheral layers of the fistula. Histologic structure is well preserved in the inner layers.

a sterile dressing is applied. There is considerable purulent discharge from the sinus tract and, as a rule, despite the ointment, some irritation of the skin by the dissolved silver nitrate. If one tries to remove the silver nitrate stick after twenty-four hours, one succeeds only partially, and the patient complains of pain; the silver nitrate has dissolved but the sinus tract is not yet loose. In chronic sinuses it takes about two or three days before one is able to remove the entire tract. With a forceps one can easily remove the incrustated sinus tract, which in some cases was more than 6 inches long and of the thickness of a little finger. Immediately after removal the tract is gray but turns black quickly if exposed to light. The remaining sinus tract is covered by nice, red, healthy looking granulations. It is washed out with solution of hydrogen peroxide. The finger-thick canal very rapidly shrinks, and the healthy granulations may lead to complete and permanent closure.

The histologic structure of sinus tracts that were removed could easily be made out. Quite frequently tubercles can be seen in the inner layer. The vessels especially are nicely visible because their walls show silver impregnation. There is a regular concentric precipitation of silver albuminates farther away from the sinus lumen. The inner layers show only fine granular diffuse involvement. The concentric arrangement is strikingly similar to the structure of gallstones or cartilaginous joint bodies, in which also anorganic lime salts become precipitated in organic matter. It is an expression of the gradual diffusion of the silver salts and corresponds most likely to the concentric rings described by Liesegang. In his colloid chemical studies Liesegang made the observation that the solid form of a not easily soluble substance becomes precipitated in gel not evenly but in layers. He explains the concentric arrangement of the layers with a rhythmic diffusion of the dissolved substance. The separation of the incrustated sinus wall takes place along the most peripheral ring or tube of precipitation. The histologic details of this process could not be examined because the zone of demarcation remains in the body.

My only purpose is to call attention to a method that is harmless and may often render good service in chronic sinuses.

Florida Medical Center.

PARADOXICAL EMBOLISM

ROBERT KORITSCHONER, M.D., KANSAS CITY, MO.
From the Department of Pathology, Menorah Hospital.

Statistics show a patency of the foramen ovale in approximatey 33 per cent at all autopsies. Paradoxical embolism is the passing of a blood clot from the right to the left side of the heart through the patent foramen ovale. This possibility enables the pathologist to account for certain embolic phenomena. The explanation, however, is often questioned by the clinician. The incidence of an embolus passing through the

Fig. 1.—Right auricle with the embolus coiled up.

patent foramen ovale is not of great clinical importance but carries considerable pathologic interest. Only twelve cases of this type are found in the literature.[1]

1. These include:
Zahn, F. W.: Rev. méd. de la Suisse, Rom., 1881, p. 227.
Hauser, G.: München. med. Wchnschr. **35**: 583, 1888.
Rostan, A.: These de Genève, 1884 (three cases).
Verse, Max: Verhandl. d. deutsch. path. Gesellsch. **13**: 215, 1909.
Thompson, T., and Evans, William: Quart. J. Med. **23**: 135 (Jan.) 1930 (two cases).
Wittig, M.: Ztschr. f. Kreislaufforsch. **19**: 505 (Aug. 1) 1927.
Barnard, W. G.: Quart. J. Med. **23**: 305 (April) 1930.
Taylor, James: Paradoxical Embolism, Arch. Path. **16**: 901 (Dec.) 1933.
French, L. R.: Paradoxical Embolism, Arch. Path. **11**: 383 (March) 1931.

The following case is reported because of its rarity:

A woman, aged 63, died six days after a uterine suspension. Her condition was satisfactory until the evening of the sixth day, when she collapsed and became dyspneic and cyanotic. She partially recovered but died suddenly three hours later. At autopsy a large, well formed embolus, slightly adherent, was found in the main branch of the left pulmonary artery, and several smaller ones of the same character were demonstrated in the branches of the right pulmonary artery. The heart showed a long embolus, which had been caught as it passed through the foramen ovale. The main portion lay coiled up in the right auricle. One end extended 1 cm. into the left

Fig. 2.—Left auricle with the end of the embolus sticking through the foramen ovale.

auricle. The origin of these emboli was traced to the right iliac and femoral veins, where a roughness of the intima, without thrombus, was demonstrated.

The clinical symptoms were evidently due to a massive embolus in the main branch of the pulmonary artery. As a result of the obstruction to the pulmonary circulation there ensued a marked increase in blood pressure in the right side of the heart, which produced a dilatation and stretched the preexisting small opening in the foramen ovale. The diminished pulmonary circulation decreased the pressure in the left auricle. This disturbed balance probably produced a condition which favored the development of a paradoxical embolism. It is conjectured that a second embolus was formed between the two attacks. This clot was probably released into the circulation and was lodged at the foramen ovale. The second embolus coiled up in the right auricle and completely obstructed the pulmonary circulation, which caused immediate death.

4949 Rockhill Road.

Too Much Digitalis.—The most frequent sign of too much digitalis is nausea and vomiting and when occurring they indicate cessation of the drug.—Dr. Henry Christian, quoted by Fisher, Alexander: Aphorisms in Clinical Medicine, *Canad. J. Med. & Surg.* **77**:166 (June) 1935.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT. HOWARD A. CARTER, Secretary.

DeFOREST DYNATHERM ACCEPTABLE (Types "M," "NE" and "D")

Manufacturer: Lee DeForest Laboratories, Los Angeles.

These short wave diathermy machines are recommended by the manufacturer for the application of medical diathermy and for electrosurgery. The chassis, construction and electrical circuits for the three models are identical. The difference between the three models is confined entirely to the construction of the cabinet. The weight of all three is eighty pounds.

Model "M" is encased in a heavy steel cabinet with steel panels.

Model "NE" is in a steel case and is in every respect identical to Model "M" with the exception that the instrument panel is of the sloping vertical type rather than the sloping horizontal type, as is Model "M."

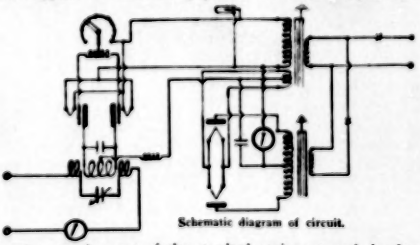
DeForest Dynatherm, Model "M"

Model "D" embodies the same chassis and circuit, except that it is encased in a suitcase type of cabinet for portability.

Models "M," "NE" and "D" make use of oscillating audion circuit employing four vacuum tubes—two for rectification and two for generating high frequency currents. The wavelength is 18 meters. These units operate from 110 alternating current circuit; special additional equipment is necessary in case the physician's supply is direct current. The maximum power input for these units is approximately 1,000 watts.

Since there is no acceptable method for measuring the output of diathermy machines, this value is not stated. Operating the machine under full load indicated that the temperature rise of the transformer and the cabinet was within the temperature limits considered safe by the Council.

At the request of the Council, the firm submitted data concerning the tissue heating efficacy of the machine when used on the human thigh. The results of the investigations showed that, when using the cuff electrode technic, the temperature rise in the deep-lying tissue was higher than when using conventional diathermy—the criterion which the Council has adopted for investigating short wave machines—and these results were confirmed by the Council's investigator. Cuff electrodes are supplied as standard equipment. Furthermore, pad electrodes are also part of the standard equipment, and the firm claims they are efficient applicators.



Schematic diagram of circuit.

Burns may be produced by this machine, but, if ordinary care is observed, they may be avoided; their likelihood to occur is much less than when conventional diathermy is used.

The machine was used by the Council's investigator in a clinic for several months, and he reported that it gave satisfactory clinical service. In view of the favorable report, the Council voted to include the DeForest Dynatherm (Types "M," "NE" and "D") in its list of accepted apparatus.

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THE KANSAS CITY SESSION

AMERICAN MEDICAL ASSOCIATION, EIGHTY-SEVENTH ANNUAL SESSION
KANSAS CITY, MO., MAY 11-15, 1936

OFFICIAL CALL

TO THE OFFICERS, FELLOWS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The eighty-seventh annual session of the American Medical Association will be held in Kansas City, May 11-15, 1936.

The House of Delegates will convene at 10 a. m., Monday, May 11. In the House the representation of the various constituent associations for 1935, 1936 and 1937 is as follows:

Alabama	2	New Hampshire	1
Arizona	1	New Jersey	4
Arkansas	2	New Mexico	1
California	7	New York	17
Colorado	2	North Carolina	2
Connecticut	2	North Dakota	1
Delaware	1	Ohio	7
District of Columbia	1	Oklahoma	2
Florida	2	Oregon	1
Georgia	3	Pennsylvania	11
Idaho	1	Rhode Island	1
Illinois	9	South Carolina	2
Indiana	4	South Dakota	1
Iowa	3	Tennessee	3
Kansas	2	Texas	6
Kentucky	3	Utah	1
Louisiana	2	Vermont	1
Maine	1	Virginia	3
Maryland	2	Washington	2
Massachusetts	6	West Virginia	2
Michigan	5	Wisconsin	3
Minnesota	3	Wyoming	1
Mississippi	2	Alaska	1
Missouri	5	Hawaii	1
Montana	1	Isthmian Canal Zone	1
Nebraska	2	Philippine Islands	1
Nevada	1	Puerto Rico	1

The fifteen scientific sections of the American Medical Association, the Medical Corps of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The Scientific Assembly of the Association will open with the general meeting to be held at 8 p. m., Tuesday, May 12. The sections will meet Wednesday, Thursday and Friday, May 13, 14 and 15, as follows:

CONVENING AT 9 A. M., THE SECTIONS ON

Practice of Medicine.
Surgery, General and Abdominal.
Ophthalmology.
Pharmacology and Therapeutics.
Nervous and Mental Diseases.
Dermatology and Syphilology.
Gastro-Enterology and Proctology.
Radiology.

CONVENING AT 2 P. M., THE SECTIONS ON

Obstetrics, Gynecology and Abdominal Surgery.
Laryngology, Otology and Rhinology.
Pediatrics.
Pathology and Physiology.
Preventive and Industrial Medicine and Public Health.
Urology.
Orthopedic Surgery.

Miscellaneous Topics: Session on Tuberculosis.

The Registration Department will be open from 8:30 a. m. until 5:30 p. m., Monday, Tuesday, Wednesday and Thursday, May 11, 12, 13 and 14, and from 8:30 a. m. to 12 noon, Friday, May 15.

JAMES S. McLESTER, President.
NATHAN B. VAN ETTEN, Speaker, House of Delegates.
OLIN WEST, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES
A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete, as a number of the state associations are yet to hold their meetings at which delegates will be elected. The following is a list of the holdover members of the House of Delegates and of the newly elected members who have been reported to the Secretary in time to be included:

STATE DELEGATES

ALABAMA
J. N. Baker, Montgomery.
A. A. Walker, Birmingham.

ARIZONA
J. D. Hamer, Phoenix.

ARKANSAS
William R. Brooksher, Fort Smith.

CALIFORNIA
Charles A. Dukes, Oakland.
Clarence G. Toland, Los Angeles.
Frederick C. Warnshuis, San Francisco.
William R. Molony Sr., Los Angeles.
Elbridge J. Best, San Francisco.
Lyell C. Kinney, San Diego.
Fred B. Clarke, Long Beach.

COLORADO
John W. Amesse, Denver.
Harold T. Low, Pueblo.

CONNECTICUT
Walter R. Steiner, Hartford.
George Blumer, New Haven.

DELAWARE
C. E. Wagner, Wilmington.

DISTRICT OF COLUMBIA
Henry C. Macatee, Washington.

FLORIDA
Meredith Mallory, Orlando.

GEORGIA
William H. Myers, Savannah.
C. W. Roberts, Atlanta.
Olin H. Weaver, Macon.

IDAHO
E. N. Roberts, Pocatello.

ILLINOIS
Charles B. Reed, Chicago.
W. E. Kittler, Rochelle.
Charles S. Skaggs, East St. Louis.
C. E. Wilkinson, Danville.
Charles J. Whalen, Chicago.
J. J. Pilcek, Chicago.
G. Henry Mundt, Chicago.
G. C. Otrich, Belleville.

INDIANA
H. G. Hamer, Indianapolis.
R. L. Sensenich, South Bend.
Don F. Cameron, Fort Wayne.
F. S. Crockett, La Fayette.

IOWA
Fred Moore, Des Moines.

KANSAS
J. F. Hassig, Kansas City.
H. L. Snyder, Winfield.

KENTUCKY
Irvin Abell, Louisville.
A. T. McCormack, Louisville.
Virgil E. Simpson, Louisville.

LOUISIANA
W. H. Seemann, New Orleans.
James Q. Graves, Monroe.

MAINE
William A. Ellingwood, Rockland.

MARYLAND
Harvey B. Stone, Baltimore.
Alfred T. Gundry, Athol, Catonsville.

MASSACHUSETTS
R. H. Miller, Boston.
E. F. Cody, New Bedford.
Reginald Fitz, Boston.
J. M. Birnie, Springfield.
C. E. Mongan, Somerville.
Joseph F. Burnham, Lawrence.

MICHIGAN
C. S. Gorsline, Battle Creek.
H. A. Luce, Detroit.
J. D. Brook, Grandville.
C. R. Keyport, Grayling.
L. J. Hirschman, Detroit.

MINNESOTA
E. A. Meyerding, St. Paul.
W. F. Braasch, Rochester.
J. T. Christison, St. Paul.

MISSISSIPPI
F. J. Underwood, Jackson.

MISSOURI
J. R. McVay, Kansas City.

MONTANA
J. H. Irwin, Great Falls.

NEBRASKA
R. W. Fouts, Omaha.
B. F. Bailey, Lincoln.

NEVADA
Horace J. Brown, Reno.

NEW HAMPSHIRE
Deering G. Smith, Nashua.

NEW JERSEY
Walt P. Conaway, Atlantic City.
John F. Hagerty, Newark.
Ephraim R. Mulford, Burlington.

NEW MEXICO
H. A. Miller, Clovis.

NEW YORK
Edward R. Cunniffe, New York.
Thomas P. Farmer, Syracuse.
Floyd S. Winslow, Rochester.
Arthur J. Bedell, Albany.
William D. Johnson, Batavia.
Grant C. Madill, Ogdensburg.
James F. Rooney, Albany.
Terry M. Townsend, New York.
Frederick H. Flaherty, Syracuse.
J. Richard Kevin, Brooklyn.
Nathan B. Van Etten, New York.
Frederic E. Sondern, New York.
Samuel J. Kopetzky, New York.
George A. Leitner, Piermont.
Carl Boettiger, Flushing.
George M. Fisher, Utica.
Charles H. Goodrich, Brooklyn.

NORTH CAROLINA
M. L. Stevens, Asheville.
Wingate M. Johnson, Winston-Salem.

NORTH DAKOTA
A. P. Nachtwey, Dickinson.

OHIO
Wells Teachnor Sr., Columbus.
Ben R. McClellan, Xenia.
E. R. Brush, Zanesville.
C. W. Stone, Cleveland.
J. P. DeWitt, Canton.
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McLain Rogers, Clinton.
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Horace Reed, Oklahoma City.

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George L. Laverty, Harrisburg.
Samuel P. Mengel, Wilkes-Barre.
Walter F. Donaldson, Pittsburgh.
Francis F. Borzell, Philadelphia.
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J. Allen Jackson, Danville.
Frank P. Lytle, Birdsboro.
William H. Mayer, Pittsburgh.
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J. Newton Hunsberger, Norristown.

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H. B. Everett, Memphis.
H. H. Shoulders, Nashville.

TEXAS
Holman Taylor, Forth Worth.
Felix P. Miller, El Paso.
S. E. Thompson, Kerrville.
J. W. Burns, Cuero.
A. A. Ross, Lockhart.
E. H. Cary, Dallas.

UTAH
John Z. Brown Sr., Salt Lake City.

VERMONT
C. G. Abell, Enosburg Falls.

VIRGINIA
Wright Clarkson, Petersburg.
J. C. Flippin, University.
Walter B. Martin, Norfolk.

WASHINGTON
Brien T. King, Seattle.
J. H. O'Shea, Spokane.

WEST VIRGINIA
Walter E. Vest, Huntington.
Howard T. Phillips, Wheeling.

WISCONSIN
J. Gurney Taylor, Milwaukee.
W. E. Bannen, La Crosse.
Joseph F. Smith, Wausau.

WYOMING
George P. Johnston, Cheyenne.

ALASKA

HAWAII
G. M. Van Poole, Honolulu.

ISTHMIAN CANAL ZONE
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PHILIPPINE ISLANDS

PUERTO RICO
Ramón M. Suárez, Santurce, San Juan.

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Fred W. Rankin, Lexington, Ky.

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George Gray Ward, New York.

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Emory Hill, Richmond, Va.

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Burt R. Shurly, Detroit.

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William Weston, Columbia, S. C.

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N. M. Keith, Rochester, Minn.

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D. J. Davis, Chicago.

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T. B. Throckmorton, Des Moines, Iowa.

DERMATOLOGY AND SYPHILOLOGY
Clyde L. Cummer, Cleveland.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH
Stanley H. Osborn, Hartford, Conn.

UROLOGY
H. C. Bumpus, Pasadena, Calif.

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Henry W. Meyerding, Rochester, Minn.

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Curtice Rosser, Dallas, Texas.

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Albert Soiland, Los Angeles.

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Joseph F. Siler, Washington, D. C.

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LIBRARY—Marjorie Hutchins Moore, Librarian, Chicago.

* Deceased.

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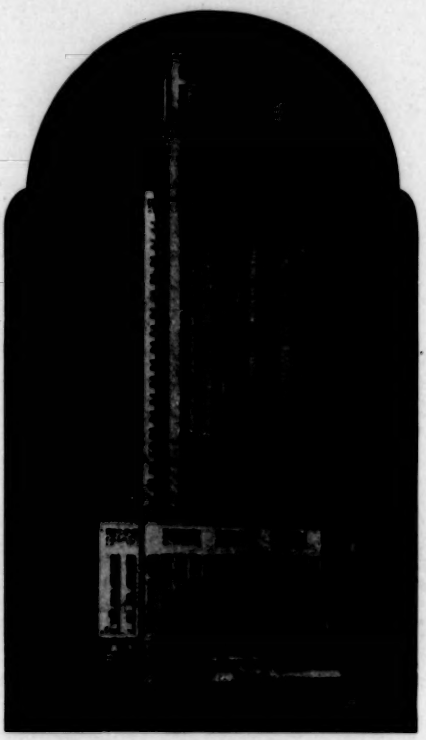
KANSAS CITY, 1936—THE HEART OF AMERICA

The ruddy vigor, enterprise and enthusiasm of the great Southwest, combined with the beauty and cultural achievements of the East, make Kansas City truly "The Heart of America."

Trading posts were founded early in the nineteenth century by Indian trappers and fur traders who paddled their canoes to the junction of the Kaw and Missouri rivers, where Kansas City now lies. Fur traders were followed by agricultural pioneers; by the middle of the century a newspaper, telegraph and postoffice were established. Pioneer villages then known as Westport and Independence had become outfitting posts for the caravans that crossed the West. The famous Santa Fe trail had its inception within the present city limits. Stimulated by the steamboat trade, Kansas City rapidly became the logical distributing point for the great Southwest.

Today Kansas City blends the culture of the East, the vision of the West, the energy of the North and the hospitality of the South. Proud of the beauty and extent of its cultural achievements, Kansas City's modern Municipal Auditorium, new Jackson County Court House, Power and Light Building, United States Post Office, William Rockhill Nelson Gallery of Art, Liberty Memorial and unsurpassed boulevards and residential districts are all concrete evidence of the good taste and artistic appreciation of this agricultural empire.



THE CITY HALL NOW UNDER CONSTRUCTION

THE AUDITORIUM

The American Medical Association is fortunate in being among the first to enjoy the new $6,000,000 Municipal Auditorium. Located in the heart of downtown Kansas City within two to five blocks of almost all hotels, the new auditorium is a tribute to modern architecture.

Complete air conditioning and mechanical ventilation assure controlled and uniform temperatures within regardless of prevailing weather conditions. This is made possible by the third largest air conditioning system in the country, the system installed in the auditorium being exceeded only by those in the department of commerce building and the postoffice department building in Washington.

The main arena, seating from 13,000 to 15,000, resembles a huge amphitheater or stadium, and its lighting and acoustic properties are said by engineers to be the finest in the country.

Modern even to its color scheme of rich yellows, rusts and blues, the exhibition hall affords some 90,000 feet of space, while foyers and arenas increase this area by 60,000 additional feet.

Two small theaters seating 3,500 and 1,200 and thirty-three committee rooms accommodating groups of from twenty-five to a hundred, all of which may be placed in direct communication with the main arena by use of the high fidelity public address system, make the hall readily adaptable to any meeting requirements.

ACTIVITIES OF THE JACKSON COUNTY MEDICAL SOCIETY

Since 1881 the Jackson County Medical Society has been the guide and translator of all things medical in Kansas City.

Through the untiring effort of early members of the society, the necessary bond issue was initiated and passed for the establishment of a municipal hospital. Interested obstetricians later stimulated the establishment in the General Hospital of an antepartum clinic, which now serves some thirty patients daily and has greatly reduced fetal and maternal mortality.

The Kansas City medical profession is ably represented in the educational field, many widely known teachers and writers coming from their ranks. Such writings have been widely used in army medical units, translated into many languages and used as textbooks throughout the world. Others have written extensively on such special fields as pathology, dermatology, congenital syphilis, focal infection and allergy, posture or child health.

The Jackson County Medical Society is justly proud of its library. This library, after long discouraging hard years of labor on the part of an interested few, now represents one of the largest collections owned by a county society in the United States.

KANSAS CITY SOUTHWEST CLINICAL SOCIETY

Kansas City's Southwest Clinical Society is among the pioneers in its plan of organization for a method of promoting postgraduate medical education. It was organized in 1922 with a limited membership of surgeons, internists and specialists of Greater Kansas City. This society mimeographs a daily bulletin of the operations, ward walks and clinics at eleven allied grade A hospitals in Greater Kansas City. It conducts the annual fall clinical conference during the first full week in October, with at least ten distinguished guests and scientific and technical exhibits. Its membership promotes monthly hospital clinics at one hospital each month on the second Tuesday and combines with the Jackson County Medical Society for the evening program on the same day. It also publishes a monthly bulletin, which is distributed to 6,200 physicians of Kansas City and surrounding territory. This bulletin carries the papers read by distinguished guests and members of the fall conference and monthly hospital clinics.

Since 1933 the society has conducted a spring medicomilitary symposium for two days during the second week in March in conjunction with the eighth army corps area and naval reserve authority, open to all physicians and required for army and navy reserve officers. An office with a full time executive secretary is maintained at 205 Shukert Building, 1109 Grand Avenue.

KANSAS CITY PUBLIC HEALTH DEPARTMENT

The Jackson County Medical Society has continued to develop power and influence during its fifty-four years of existence, until it now virtually dominates the health policies of the community it serves. The Kansas City Department of Health enjoys the counsel and complete cooperation of its membership.

Kansas City for the past ten years has operated under the city manager type of government. Under the direction of Dr. Edwin Henry Schorer, the work and organization of its health department differs somewhat from that of most cities.

The director's office, the personnel, vital statistics, communicable diseases and child hygiene divisions are located at the city hall. All the other activities, except the Municipal Tuberculosis Hospital, are on what is known as "Hospital Hill" and include the divisions of laboratories, inspection, sanitation, municipal hospitals, ambulance and motor vehicles, maintenance and repair and the central service station.

The municipal hospitals are General No. 1 for the white, General No. 2 for the colored, and the tuberculosis and isolation hospitals for the white and the colored. The staffs of the general hospitals are voluntary, 165 at the hospital for the white, where only members of the Jackson County Medical Society are eligible, and forty-one at the hospital for the colored, where only physicians belonging to the Jackson County Medical Society or the Kansas City Medical Society (colored) are eligible.

RETAIL SHOPPING DISTRICT IN KANSAS CITY

The salaried personnel of the health department numbers 484 for General Hospital No. 1, 186 for General Hospital No. 2, 151 for the Tuberculosis Hospital and 142 for all other departments. General Hospital No. 1 has 400 beds, General Hospital No. 2, 208, Isolation Hospital for the white seventy, Isolation Hospital for the colored forty-two, and the Tuberculosis Hospital 213 beds for the white and forty-seven for the colored.

The annual appropriation for the health department amounts to about 20 per cent of the general fund revenue, which is quite liberal since the health department cooperates only on sewage disposal, collection of garbage and the production of the water supply.

The Tuberculosis Hospital at Leeds is one of the few municipal hospitals for the treatment of tuberculosis. It has a completely modern surgical pavilion, which has been completed within the last year. Cases are transferred from the state and county sanatoriums for surgical treatment. The operations most often performed are phrenicectomy, thoracoplasty, pneumolysis and plumbage. Patients are admitted through the tuberculosis service in cooperation with the Kansas City Tuberculosis Society, and the hospital's combined plant has been checked by many of the country's foremost phthisiologists and proclaimed a complete and modern working unit for the treatment of all types of pulmonary tuberculosis.

Outpatient departments are maintained at both of the general hospitals and a social service department is included, which cooperates with the Council of Social Agencies. All patients except some at the Tuberculosis Hospital are registered at the Central Index of Indigency.

At all the municipal hospitals and outpatient departments there are dental services operated by members of the staff selected from the membership of the Kansas City Dental Society.

In no instance does the health department concern itself with diagnosis. In every instance where possible, it provides the materials prescribed by the professional staff.

HOSPITALIZATION

Greater Kansas City has twenty-six hospitals with a bed capacity of 3,279. Of these, twenty-one are in Kansas City, Mo., and five in Kansas City, Kan. Included are:

Hospital	Under Auspices of
Neurological Hospital	Eleemosynary corporation
Children's Mercy Hospital	Association
Menorah	Association
Evangelical Hospital	Evangelical Deaconess Society
Fairmount Maternity Hospital	Privately owned
Florence Crittenton Home	Women's Interdenominational Missionary Council
Colored Hospital (public)	City of Kansas City
General Hospital (public)	City of Kansas City
K. C. Industrial Hospital	Privately owned
Tuberculosis Hospital (public)	City of Kansas City
Lakeside Hospital	Privately owned
Research Hospital	Association
St. Joseph's Hospital	Sisters of St. Joseph
St. Mary's Hospital	Sisters of St. Mary
St. Luke's Hospital of Kansas City	Episcopal Diocese
St. Vincent's Maternity Hospital	Catholic Diocese
Trinity Lutheran Hospital	Augustana Lutheran Synod
The Willows Maternity Sanitarium	Privately owned
Vineyard Park Hospital	Privately owned
Wesley Hospital	Privately owned
Wheatley Provident Hospital (colored)	Association
Kansas City, Kan.	
Bell Memorial Hospital (public)	State of Kansas—University of Kansas Medical School
Douglass Hospital (colored)	African Methodist Episcopal Church
Providence Hospital	Sisters of Charity
St. Margaret's Hospital	Sisters of St. Francis

Kansas City's Mercy Hospital, an outgrowth of the determination, vision and untiring effort of Dr. Katherine B. Richardson, is as important to Kansas City as Jane Addams and Hull House to Chicago.

Handling more than 22,000 children a year who are unable to pay a dollar for their care, the cornerstone of the new million dollar Mercy Hospital bears the inscription "In 1897 Dr. Alice Berry Graham founded this hospital for sick and crippled children, to be forever non-sectarian, non-local, and for those who cannot pay." Founded on the ideals of Dr. Graham and her sister, Dr. Richardson, Mercy had its beginnings in their home—first as one bed, then a house of a few rooms, then a larger house followed by a bigger brick hospital on Highland Avenue—and then the beginnings of the present hospital at Independence and Woodland Avenue. With its growth in size, expenses mounted and following Dr. Graham's death in 1913 it was only Dr. Richardson's genius in planning and in raising money, and her executive ability in organization that made it possible to continue. Like an itinerant preacher she journeyed each Saturday to some neighboring town in Kansas City territory, never asking for money but explaining the purposes, ideals, equipment and organization of Mercy to the leading women in that town. Today, as a result, some 300 Mercy hospital clubs in 300 neighboring towns and villages send thousands of chil-

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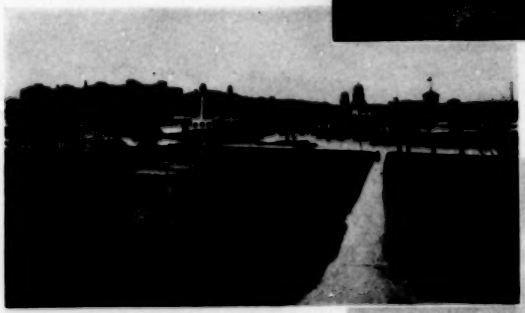
Views About Kansas City

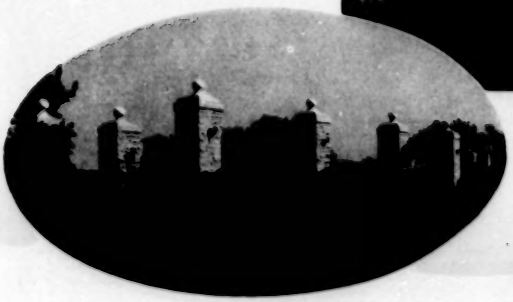
ONE OF THE NUMEROUS
KANSAS CITY GOLF COURSES

ABOVE—WILLIAM ROCKHILL
NELSON ART GALLERY



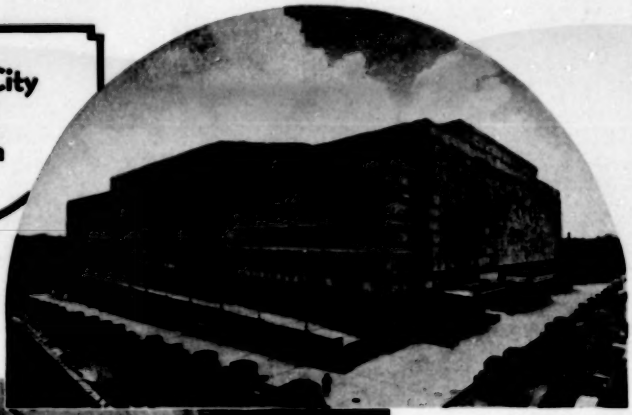
ABOVE—COUNTRY CLUB PLAZA

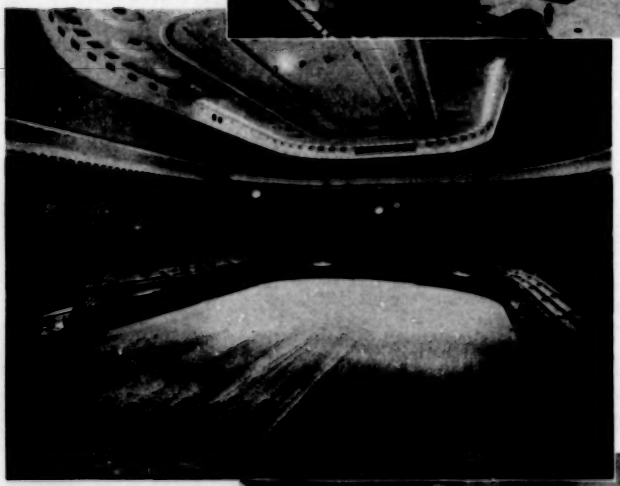
ABOVE—THE KERSEY
COATES DRIVE



THE ENTRANCE TO SWOPE PARK

The Kansas City Municipal Auditorium





AT LEFT—THE MAIN ARENA

AT RIGHT—MAIN EXHIBITION HALL

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dren and, seeing the work being done, lend their support. Donations from this source have amounted to as much as $15,000 annually. So for thirty-nine years Dr. Richardson and her efficient superintendent, Anna A. Anderson, with a staff of twenty-five of the finest physicians and surgeons in Kansas City, have donated their services to the children of the poor. The afflicted, ailing, crippled, deformed, abnormal and neglected have all found a haven at Mercy. In recent years Mercy has received a share of the money raised in the annual charity drive and today finds it entirely free from debt and prospering on the ideals and spirit built into it by its courageous founders.

Another Kansas City hospital of national interest is the clinical branch of the University of Kansas School of Medicine. Located two miles southwest of the Municipal Auditorium at Thirty-Ninth and Hudson Road, it occupies a new site on the Kansas side of this metropolitan area. The newly developed medical plant is situated on a beautiful and sightly location, occupying fifteen acres of land and now composed of a group of four new buildings of modern construction including Bell Memorial Hospital, the Nurses Home, the Medical School and the Power Plant. New units now under construction include the children's pavilion, the new clinic building or outpatient building, and the research laboratory. The last unit mentioned is to be known as the Hixon Laboratory for Medical Research.

The first year and a half of the medical course is given at the University of Kansas at Lawrence, forty miles west of here, where the departments of anatomy, physiology, biochemistry and bacteriology are located. The last two and one-half years are given in the Kansas City Division of the Medical School. The clinical branch of the Medical School was first organized in 1905 through the amalgamation of four schools in this district and one located in Topeka. It was started by Dr. Simeon Bell, who presented the university eight acres of land and erected a laboratory and teaching building for the use of the Medical School in Rosedale, Kan., formerly a suburb of Kansas City, Kan., and a part of the metropolitan area of Greater Kansas City. In 1924 this original site was considered unsuited for the development of a new medical center, and a new site composed of fifteen acres located one mile south of the old location was secured; at this place three units are now completed and four additional ones are in the course of construction.

The University of Kansas Hospitals, the main unit of which is known as Bell Memorial Hospital, have at present a capacity of 250 beds and are owned and controlled by the Medical School. Eighty-five per cent of the beds are available for teaching purposes in spite of the fact that the hospital is 80 per cent self supporting. The outpatient department serves patients from either side of the state line, and the attendance exceeds 70,000 visits annually. The departments of pathology and pharmacology are still located at the old site one mile away but will be moved to the new location as soon as the new buildings are ready for their accommodation.

St. Joseph's Hospital has a well equipped physical therapy department, x-ray department and approved clinical pathologic laboratory and obstetric department.

Research Hospital has one of the most complete diagnostic clinics in this section. St. Margaret's hospital in Kansas City, Kan., offers a research fellowship under the Boylan endowment fund. Its departments include pediatrics, obstetrics, urology, general medicine and surgery, and orthopedics, with complete x-ray and laboratory equipment. Wesley hospital offers special x-ray equipment for high voltage therapy.

The services of a full time pathologist at Bethany Hospital place immediate frozen section, tissue and necropsy work at the disposal of physicians. This hospital is also fully approved by the Crippled Children's Commission for treatment of children with orthopedic conditions and congenital cataract.

In addition to Providence and St. Mary's hospitals, which are general hospitals equipped to do general work, Kansas City is proud of its new Menorah Hospital, opened in 1931. Menorah is well known for its cancer clinic, having $10,000 worth of radium. Here also is the most completely equipped physical therapy department in Kansas City.

St. Vincent's Maternity hospital, operated by the Catholic Sisters of Charity of St. Vincent de Paul, specializes in obstetrics exclusively. The Neurological Hospital or Robinson Clinic is an eleemosynary corporation founded in October 1936, and it limits its cases to nervous and mental illnesses, alcoholism, narcotics and allied conditions. It has an open staff and the facilities of the former Christian Church Hospital have been remodeled to adapt the building to the particular needs of this specialty and provide sufficient inside recreational space. Special type steel casement windows obviate the necessity of bars and heavy screens, and recreational facilities include game rooms, a music room, theater and auditorium, roof garden, individual and hall radios, scientific and popular library, gymnasium, occupational rooms and ample provision for outdoor sports.

THE KANSAS CITY GENERAL HOSPITAL

Wheatley Provident Hospital for the colored specializes in eye, ear, nose and throat work, has all the standard laboratory equipment, and is one of the few hospitals for Negroes to receive an A rating.

DENTAL EDUCATION

Dental education in Kansas City was first established with the organization of the Kansas City Dental College in 1881, the Western Dental College being established nine years later.

These two schools were united in 1919 as the Kansas City Western Dental College, and the charter of the new organization established the school on a strict educational basis, divorcing it from all commercial interests. In 1923 a large new fireproof building was erected and the most modern equipment purchased, placing the school among the first ten of some forty comparable colleges and entitling it to an A rating by the Dental Educational Council of America.

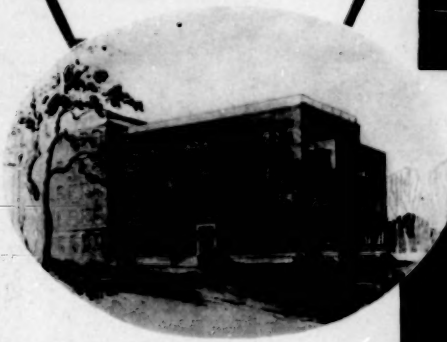
Through the generous bequest of Dr. Howard S. Lowry, the college was enabled to establish three internships in children's dentistry and receives approximately 200 children each week in its free clinic, the patients being selected from the public schools by visiting nurses.

Another gift of $27,000 was made in 1935, which was used to purchase 300 oral surgery models, which constitute a visual education in this field.

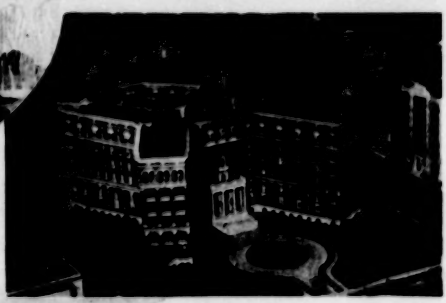
With nine full time instructors, the enrolment of the Kansas City Western Dental College ranks fifth in the United States. There have been about 4,000 graduates since its inception fifty-five years ago, and its students include representatives from practically all states of the Union and some foreign countries.

Kansas City Hospitals

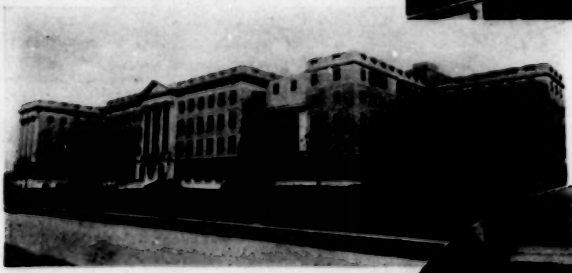
ST. MARY'S HOSPITAL



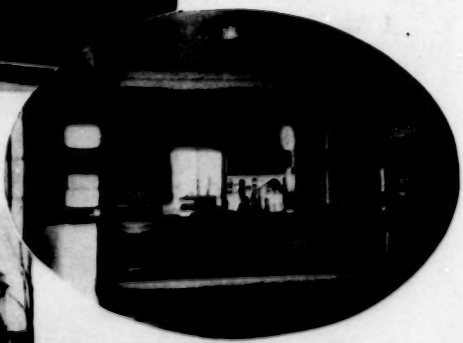
UNIVERSITY OF KANSAS HOSPITAL
CHILDREN'S PAVILION NOW
UNDER CONSTRUCTION



ST. JOSEPH HOSPITAL



UNIVERSITY OF KANSAS
BELL MEMORIAL HOSPITAL



LOBBY OF BELL MEMORIAL HOSPITAL

PROVIDENCE HOSPITAL

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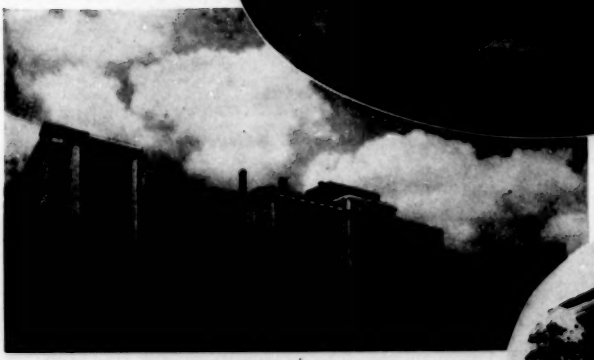
Kansas City Hospitals

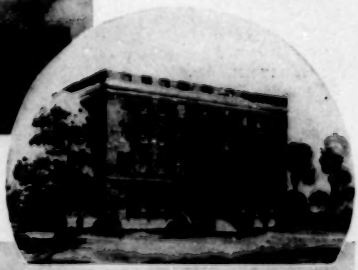
THE NEUROLOGICAL HOSPITAL

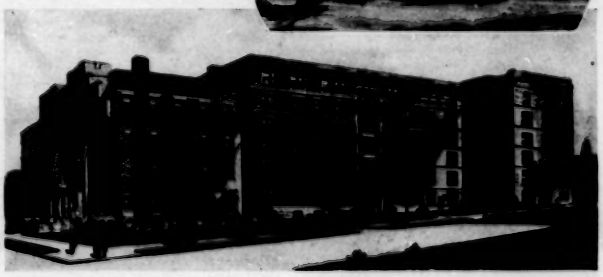
ABOVE—
MERCY HOSPITAL

BELOW—NIXON LABORATORY
UNIVERSITY OF KANSAS
HOSPITAL



ST. LUKE'S HOSPITAL





THE RESEARCH HOSPITAL

SPECIAL GROUPS

Officers and members of various examining boards and sections of the American Medical Association will be interested in the meetings of Kansas City's special groups, including the Kansas City Academy of Medicine, Kansas City Dermatological Society, Kansas City Obstetrics and Gynecology Society, Kansas City Society of Ophthalmology and Otolaryngology, Kansas City Society of Pathologists, Kansas City Society of Pediatricians, and the Kansas City Urological Society. These special interests hold weekly, bimonthly or monthly meetings for the purpose of studying interesting clinical cases, conducting special courses of instruction or entertaining guest speakers of special prominence in their particular fields.

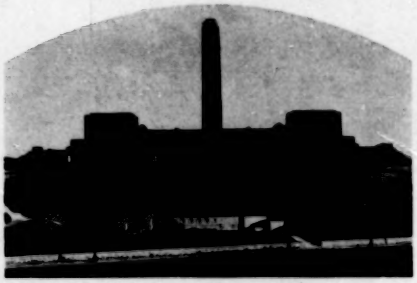
CULTURAL AND RECREATIONAL FACILITIES IN KANSAS CITY

More than a hundred miles of beautifully landscaped drives at the height of their beauty in the late spring season await the convention visitor.

Cliff Drive to the northeast of the city retains the natural scenic beauty and charm of a winding drive through the mountains, with Budd Park inviting relaxation and an occasional distant view of Kansas City serving as a reminder of midwestern enterprise.

Restful Penn Valley, to the south, home of "The Scout" and A. Phimster Proctor's sculptural group "The Pioneer Mother," forms a picturesque link between down-town Kansas City and its outlying shopping areas.

When seen after night, the Liberty Memorial is a sight of majestic power, and a battery of blue lights directed on a series of fountains presents a kaleidoscopic picture of mystical beauty with all Kansas City's vast skyline unfolding when viewed from this 537 foot height. All this, however, is in sharp contrast to the wealth of war trophies, weapons, communications and factual information contained within the memorial, a collection that merits several hours of browsing.



KANSAS CITY'S LIBERTY MEMORIAL

Ample opportunity for outdoor sports is afforded in Kansas City's Swope Park—the third largest municipal playground in the world. Its 1,400 acres of rustic woodland, three golf courses, tennis courts, picnic grounds, shelter houses, natural footpaths, outdoor animal pits, zoo and lagoon for swimming and boating afford interest and entertainment for groups of all ages and tastes.

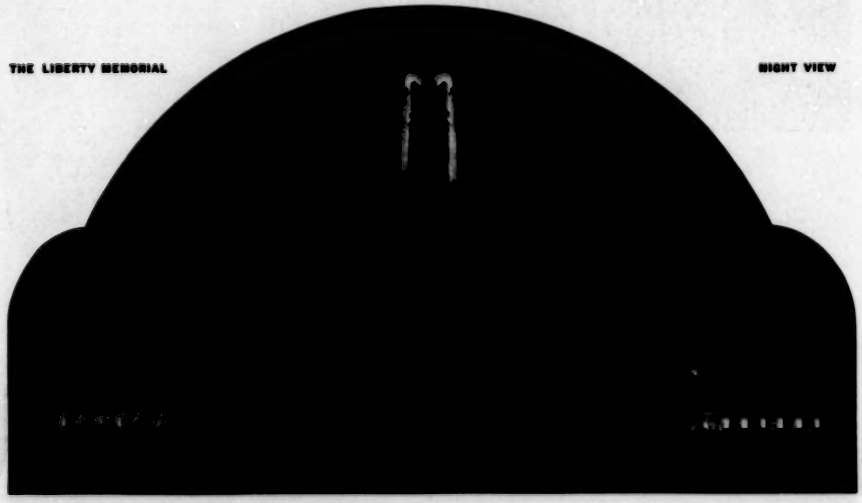
It has been said that the index to any city may be found in its homes. If this is true, a few hours spent in exploring Kansas City's country club district justifies its claim to the most important high type residential development in the world, and the largest contiguous restricted district to be found in the United States.

Served by the Country Club Plaza, ever seasonable and festive in its decoration and Spanish in its architecture, this outlying shopping area constitutes a complete and beautiful miniature city in itself served by its own residential parks, golf course, playgrounds and shopping centers.

Those with cultural interests will want to explore the building and grounds of Kansas City's rapidly growing five year old University of Kansas City and feast on the spacious grounds and classic architecture of the William Rockhill Nelson Gallery of Art.

Made possible by the bequests of William Rockhill Nelson, the founder of the Kansas City *Star*, the gallery is erected on the grounds of Mr. Nelson's former residence, Oak Hill, and the dignity and scientific construction of the building itself bespeak the wide variety and tremendous value of the rapidly growing collection within. More than 5,000 objects of art, from the earliest civilization of Asia Minor to contemporary twentieth century art, are exhibited. A distinctve feature is the installation of original old panelings with complete furnishings of the period. These include an English Georgian drawing room, a French Regina Salon, a Spanish-Italian room and an American

THE LIBERTY MEMORIAL — NIGHT VIEW



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wing of five interiors brought from various sections of the Atlantic coast.

The department of paintings already ranks fifth among museums of the United States and includes works by Titian, Tintoretto, Veronese, Rembrandt, Rubens, Hals, El Greco, Velasquez, Goya, Poussin, Chardin, Boucher, Greuze, Millet, Gainsborough, Reynolds, Raeburn, Copley, West, Stuart and Inness.

The classical collection contains sculpture, bronze and pottery from Egypt, Greece and Rome; and the Egyptian Hawk, Greek Lion and Statue of Roman Patrician are almost unique in America. The department of the Near and Far East contains treasures from Persia, India, China and Japan that cannot be duplicated in the United States.

INDUSTRIAL KANSAS CITY

All of this, however, is but a tribute to the enterprise of the industrialist. Though nineteenth in size, Kansas City ranks first as a primary winter wheat market, in the distribution of kafir corn and milo maize, grain sorghum, seeds, and as a market for hay, stocker and feeder cattle, and cash grain. Kansas City's stockyards and meat-packing industry are second only to those of Chicago. Its importance as a manufacturing center is widely recognized, offering more than 875 establishments. First in the manufacture of poultry, stock and dairy feeds, in the distribution of agricultural implements, and the manufacture of American black walnut, this volume of agricultural business places Kansas City seventh in amount of bank clearings and eleventh in value of manufactured products.

Downtown Kansas City with its new Jackson County Court House, Post Office, Power and Light Building, broadcasting stations, and famous "Petticoat Lane" bespeak its commercial importance.

The Power and Light Building, with its television laboratories, broadcasting station and lighting bureau containing all manner of devices for testing sight, should prove of particular interest to the medical profession.

If time will permit without neglecting the numerous opportunities for exploring the city itself, a number of interesting side trips can be suggested. These include Lawrence, Kan., home of the University of Kansas, Spooner Thayer Museum and Haskell Institute, and federal training school for Indians, a distance of forty miles; Fort Leavenworth, regular army post of Indian border and Civil War importance and home of the federal penitentiary, national soldiers' home and federal disciplinary barracks; and Shawnee Indian Mission, a pioneer educational institution established in 1830.

An abundance of fish and game make the resort centers in the Ozark country irresistible to the sportsman.

TRANSPORTATION

Railroad Rates to Kansas City

Special rates have been granted for the benefit of members of the American Medical Association and dependent members of their families who will attend the annual session at Kansas City.

The Central, the New England, the Southeastern, the Southwestern, the Transcontinental, the Trunk Line and the Western Passenger Associations, as well as the Eastern Line of the Canadian Passenger Association, have granted a rate of one and one-third fares.

To have the benefit of a return rate of one-third fare, it will be necessary for each member to secure a CERTIFICATE from the railroad ticket agent when he purchases his ticket to Kansas City. The certificate must be certified to by the Secretary of the American Medical Association, which may be done at the Registration Bureau to be located in the Kansas City Municipal Auditorium, *and must then be validated by a representative of the railroads.* When the certificate is so certified and validated, it will entitle its holder to purchase a return ticket to his home, over the same route traveled to Kansas City, at one-third fare.

THE KANSAS CITY UNION STATION

If the ticket agent at the member's home station does not have the certificate, he will furnish information as to where and how it may be obtained.

The certificate is *not* a receipt for money paid for a ticket, nor will a receipt entitle its holder to secure a return trip ticket at a reduced rate. Be sure to ask the ticket agent for a CERTIFICATE.

The dates of sale of tickets to Kansas City will be May 7 to 13 in the territory of the Eastern Lines of the Canadian Passenger Association and in the territories of the Central Passenger Association, the Southeastern Passenger Association and the Trunk Line Association; from Arkansas, Kansas, Louisiana and Missouri, as well as Natchez, Miss., and Memphis, Tenn., in the territory of the Southwestern Passenger Association, and from Illinois, Iowa, Kansas, Manitoba, Minnesota, Missouri, Nebraska, northern Michigan, North Dakota, South Dakota and Wisconsin, as well as Julesburg, Colo., in the territories of the Transcontinental and Western Passenger Association.

FLYING TO KANSAS CITY

The dates of sale of tickets in the territory of the New England Passenger Association will be May 6 to 12. In the territories of the Southwestern, Transcontinental and Western Passenger Associations, the dates of sale of tickets from Colorado (except Julesburg), New Mexico (east of and including El Paso and Albuquerque), Oklahoma, Texas and Wyoming will be May 6 to 12, and from Arizona, British Columbia, California, Idaho, Montana, Nevada, New Mexico (west of Albuquerque and El Paso), Oregon, Utah and Washington, May 5 to 12.

Certificates properly certified and validated will be honored for purchasing tickets for the return journey at one-third fare up to and including May 19. No refund of fare will be made on account of failure to present validated certificate when purchasing return ticket. The return ticket must be used over the same route as that traveled going to Kansas City.

When you purchase your ticket to Kansas City, secure from the railroad ticket agent a CERTIFICATE, which, when properly certified to and validated, will entitle you to purchase a return ticket to your home, over the same route traveled to Kansas City, at one-third the fare paid to Kansas City.

BE SURE TO ASK YOUR RAILROAD TICKET AGENT FOR A CERTIFICATE WHEN PURCHASING YOUR TICKET TO KANSAS CITY.

Special Trains

The Burlington Railroad, on the nights of May 10 and 11, will operate special modern Pullmans from Chicago to Kansas City for members of the American Medical Association, their families and friends.

The "American Royal," one of the Burlington's finest trains, leaves the Union Depot, Chicago, at 7 p. m. and arrives at Kansas City at 8:50 a. m., Central Standard Time. For reservations please communicate with Mr. S. J. Owens, Burlington Railroad, 179 West Jackson Boulevard, Chicago.

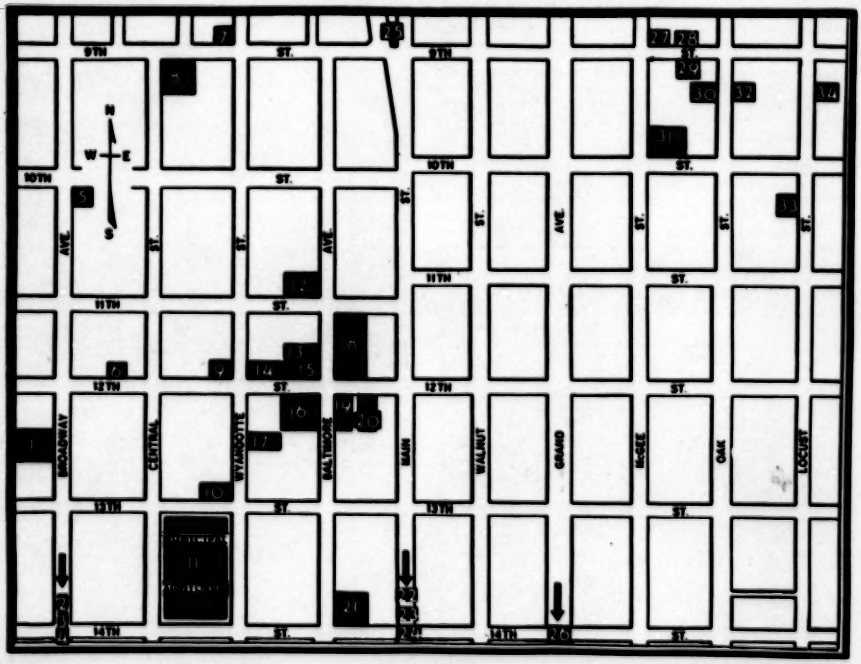
Air Travel

The Transcontinental and Western Air, Inc., announces air service to Kansas City in fourteen-passenger Douglas skyliners, each containing a crew of three. This service may be secured from Philadelphia, Pittsburgh, Indianapolis, St. Louis and Columbus, Ohio, as well as from Los Angeles, Albuquerque, N. M., Amarillo, Texas, and Wichita, Kan. Passengers from New England may make connections at New York; passengers from Michigan and Ohio, at Chicago. Local representatives may be consulted concerning discounts and savings in the use of script. Meals will be served complimentary.

REGISTRATION

The Bureau of Registration will be located in the Kansas City Municipal Auditorium, Fourteenth Street between Wyandotte and Central streets. Members of the Subcommittee on Registration of the Local Committee on Arrangements will be on hand to assist those who desire to register. A branch postoffice in charge of government postoffice officials will be available for visitors, and an information bureau will be operated in connection with the Bureau of Registration.

MAP OF KANSAS CITY, MO.



KEY TO MAP

Aladdin	17	Drake	33	Muehlebach	16	Savoy	8
Ambassador	2	Frederic	28	Phillips	15	Sexton	20
Baltimore	18	Ghdstone	29	Pickwick	31	Snyderhof	32
Bellerive	26	Kansas Citian	12	Plaza	23	Stats	14
Bray	13	Kansas City Municipal Auditorium	11	President	21	Tanner	34
Broadmoor	30	Locarno	3	Puritan	7	Union Station	24
Coates House	5	Missouri	6	Rasbach	9	Victoria	27
Commonwealth	1	Montrose	22	Riviera Apartments	4	Westgate	25
Dixon	19			Robt. E. Lee	10		

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Who May Register

Only Fellows, Affiliate, Associate and Honorary Fellows, and Invited Guests may register and take part in the work of the sections. Fellows of the Scientific Assembly are those who have, on the prescribed form, applied for Fellowship, subscribed to THE JOURNAL, and paid their Fellowship dues for the current year. The annual Fellowship dues provide a subscription to THE JOURNAL for one year. Fellowship cards are sent to all Fellows after payment of annual dues, and these cards should be presented at the registration window. Any who have not received cards for 1936 should secure them at once by writing to the American Medical Association, 535 North Dearborn Street, Chicago.

Members in Good Standing Eligible to Fellowship in the Association

Members in good standing in component county medical societies are members of constituent state associations and of the American Medical Association. All members in good standing may apply for Fellowship in the Scientific Assembly and are urged to qualify as Fellows before leaving home in order that pocket cards may be secured and brought to Kansas City so that registration can be more easily and more promptly effected.

Application forms may be had on request.

Those subscribers to THE JOURNAL who have not received pocket cards for 1936 should write to the American Medical Association for application blanks and information as to further requirements.

Register Early

Fellows living in Kansas City, as well as all other Fellows who are in Kansas City on Monday and Tuesday, should register as early as possible. The names of those who register will appear in the issue of the *Daily Bulletin* appearing the next day, and this will enable visiting physicians to find friends if they have registered.

Suggestions That Will Facilitate Registration

Fellows should fill out completely the spaces on both sections of the front of the *white* registration card, which will be found on the tables in front of the Registration Bureau.

Physicians who desire to qualify as Fellows should fill out completely the spaces on both sections of the front of the *blue* registration card, and sign the application on the back. These cards will be found on the tables.

Entries on the registration cards should be written plainly, or printed, as the cards are given to the printer to use as "copy" for the *Daily Bulletin*, published on Tuesday, Wednesday, Thursday and Friday of the week of the session.

Fellows who have their pocket cards with them can be registered with little or no delay. They should present the filled out *white* registration card, together with their pocket cards, at one of the windows marked "Registration by Pocket Card." There the clerk will compare the two cards, stamp the pocket card and return it, and supply the Fellow with a badge, a copy of the official program and other printed matter of interest to those attending the annual session.

As previously stated, it will assist in registering if those who desire to qualify as Fellows will file their applications and qualify as Fellows by writing directly to the American Medical Association, 535 North Dearborn Street, Chicago, so that their Fellowship may be entered not later than April 20. Any applications that are received later than April 20 will be given prompt attention, but the Fellowship pocket card may not reach the applicant in time for him to register at the Kansas City session.

It will be possible for members of the organization to qualify as Fellows at Kansas City. In order to do this, applicants for Fellowship will be required to fill out both sections of the front of the *blue* registration card and to sign the formal application that is printed on the reverse side of the card. It is suggested that those members who apply for Fellowship at Kansas City bring with them their state membership cards for 1936. The state membership card should be presented along with the filled in *blue* registration card at the window in the booth marked "Applicants for Fellowship and Invited Guests."

As already stated, registration can be effected more easily and more promptly if members will qualify as Fellows before leaving home.

Registration for General Officers and Delegates at the Hotel Muehlebach

General Officers of the American Medical Association and members of the House of Delegates may register for the Scientific Assembly at a booth near the Ballroom of the Hotel Muehlebach. This arrangement is made for the convenience of the members of the House of Delegates, which will convene on Monday morning at 10 o'clock in the Ballroom of the Hotel Muehlebach. Delegates are requested to register for the Scientific Assembly before presenting credentials to the Reference Committee on Credentials of the House of Delegates. Registration of delegates for the Scientific Assembly will begin at 8 o'clock, Monday morning, May 11, and delegates are urged to register early so that all members of the House of Delegates may be seated in time for the opening session of the House.

KANSAS CITY HOTELS

A list of Kansas City hotels is presented for the benefit of those who expect to attend the annual session of the American Medical Association, May 11-15. Dr. Ira H. Lockwood is chairman of the Subcommittee on Hotels of the Local Committee on Arrangements and may be addressed at 1028 Baltimore Avenue, Kansas City, Mo. The advertising announcement and coupon for reservations appear on advertising page 99 of this issue.

Hotels at Kansas City

Name and Address	Room—One Person		Room—Two Persons	
	Without Bath	With Bath	Without Bath	With Bath
ALADDIN 1213 Wyandotte	.....	$2.00-$2.50	.....	$4.00-$5.00
AMBASSADOR S. W. Broadway and Knickerbocker Place	.....	2.50	.....	3.50- 4.00
BALTIMORE 11th and Baltimore	$2.50	3.00- 4.00	$3.50	4.00-10.00
BELLERIVE 214 East Armour	.....	3.00	.....	4.00- 5.00
BRAY 1114 Baltimore Avenue	1.50	1.75- 2.50	2.50	3.00- 5.00
BROADMOOR 916 Oak	.....	1.50- 2.00	.....	2.00- 2.50
COATES HOUSE 10th and Broadway	1.50	2.00	2.50- 3.00	3.50- 4.00
COMMONWEALTH 1216 Broadway	.....	2.50- 5.00	.....	3.50- 7.00
DIXON 12th and Baltimore	.....	2.50- 3.50	.....	3.00-10.00
DRAKE 1016 Locust	.....	1.50	.....	2.50
FREDERIC 312 East 9th	.....	1.00	.....	1.50
GLADSTONE 319 East 9th	1.00	1.50	1.50	2.00- 3.50
KANSAS CITIAN N. W. 11th and Baltimore	.....	2.50- 6.00	.....	4.50- 8.00
LOCARNO 235 Ward Parkway	.....	.....	.....	5.00
MISSOURI 310 West 12th	1.00	1.50- 2.00	1.50	2.00- 3.00
MONTROSE 40th and Main	.....	2.00	.....	3.00
MUEHLEBACH 12th and Baltimore	.....	3.00- 6.00	.....	4.50- 8.00
PHILLIPS N. W. 12th and Baltimore	.....	2.50- 4.00	.....	4.00- 6.50
PICKWICK 10th and McGee	.....	2.50- 3.50	.....	3.50- 5.00
PLAZA 15 East 24th	1.50	2.50	2.50	3.50- 4.00
PRESIDENT 14th and Baltimore	.....	2.50	.....	4.00- 5.00
PURITAN 9th and Wyandotte	1.00	1.50- 2.00	1.50	2.00- 2.50
RASBACH 1116 Wyandotte	1.25- 2.00	1.50- 2.00	2.00- 4.00	2.50- 5.00
RIVIERA APARTMENTS 229 Ward Parkway	.....	.....	.....	4.00
ROBT. E. LEE 13th and Wyandotte	.....	2.00- 2.50	.....	3.00- 3.50
SAVOY 9th and Central	1.00	1.50	1.50	2.50- 4.00
SEXTON 13 West 12th	1.50	2.50- 3.00	2.50	3.50- 4.00
SKYDERHOF 917 Oak	.....	2.00	.....	2.50- 4.00
STATE 12th and Wyandotte	.....	2.50- 4.00	.....	3.50- 6.00
TANNER 917 Locust	1.50	2.00	2.50	3.00
VICTORIA N. E. 9th and McGee	1.25	1.50	1.75	2.00
WESTGATE Main and Delaware at 9th	.....	1.50	.....	2.50- 3.00

GENERAL SCIENTIFIC MEETINGS

Music Hall, Municipal Auditorium

MONDAY, MAY 11—2 P. M.

Present Status of Transurethral Resection of Prostate.
HERMON C. BUMPUS JR., Pasadena, Calif.

New and Nonofficial Remedies of the Year.
PAUL NICHOLAS LEECH, Chicago

The Diagnosis and Treatment of Tumors of the Lung.
WILLIAM F. RIENHOFF JR., Baltimore

Treatment of Chronic Rheumatoid Arthritis.
W. PAUL HOLBROOK, Tucson, Ariz.

TUESDAY, MAY 12—9:30 A. M.

Injuries of the Hands. SUMNER L. KOCH, Chicago

Recent Advances in the Study of Viruses and Virus Diseases.
THOMAS M. RIVERS, New York

Surgery of the Sympathetic System. JAMES C. WHITE, Boston

Snake Poison. AFRANIO DO AMARAL, São Paulo, Brazil

TUESDAY, MAY 12—2 P. M.

The Management of the Treatment of Gonococcic Infection by Prolonged Artificial Fever at 41.5 C. (106.7 F.).
STAFFORD L. WARREN, Rochester, N. Y.

Facts and Fallacies of Organotherapy.
ANTON J. CARLSON, Chicago

The Bone Marrow. RICHARD H. JAFFÉ, Chicago

Thyrotoxicosis. LORD HORDER, London, England

Motion Picture: Forceps Operation.
JOSEPH B. DE LEE, Chicago

MEETING PLACES

HOUSE OF DELEGATES: Ballroom of the Hotel Muehlebach, Twelfth and Baltimore.

OPENING GENERAL MEETING: North Half of Arena, Municipal Auditorium.

GENERAL SCIENTIFIC MEETINGS: Music Hall, Municipal Auditorium.

SECTIONS OF SCIENTIFIC ASSEMBLY

PRACTICE OF MEDICINE: North Half of Arena, Municipal Auditorium.

SURGERY, GENERAL AND ABDOMINAL: Music Hall, Municipal Auditorium.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY: Music Hall, Municipal Auditorium.

OPHTHALMOLOGY: Little Theater, Municipal Auditorium.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY: Little Theater, Municipal Auditorium.

PEDIATRICS: North Half of Arena, Municipal Auditorium.

PHARMACOLOGY AND THERAPEUTICS: Outside Committee Room, Wyandotte Street Side, Fourth Floor, Municipal Auditorium.

PATHOLOGY AND PHYSIOLOGY: Outside Committee Room, Wyandotte Street Side, Fourth Floor, Municipal Auditorium.

NERVOUS AND MENTAL DISEASES: Assembly Room, Sixth Floor, Municipal Auditorium.

DERMATOLOGY AND SYPHILOLOGY: Inside Committee Room, Fourth Floor, Municipal Auditorium.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH: Congress Room, Hotel President, Fourteenth and Baltimore.

UROLOGY: Inside Committee Room, Fourth Floor, Municipal Auditorium.

ORTHOPEDIC SURGERY: Assembly Room, Sixth Floor, Municipal Auditorium.

GASTRO-ENTEROLOGY AND PROCTOLOGY: Congress Room, Hotel President, Fourteenth and Baltimore.

RADIOLOGY: Inside Committee Room, Fifth Floor, Municipal Auditorium.

MISCELLANEOUS TOPICS, SESSION ON TUBERCULOSIS: Inside Committee Room, Fifth Floor, Municipal Auditorium.

GENERAL HEADQUARTERS, SCIENTIFIC EXHIBIT, REGISTRATION BUREAU, TECHNICAL EXHIBITS, INFORMATION BUREAU AND BRANCH POSTOFFICE: Municipal Auditorium.

The Municipal Auditorium is located at Fourteenth Street between Wyandotte and Central streets.

LOCAL COMMITTEE ON ARRANGEMENTS

EDWARD HOLMAN SKINNER, Chairman

JAMES R. McVAY, Coordinating Chairman
FRANK R. TEACHENOR, Vice Chairman
EDWIN HENRY SCHORER, Vice Chairman
FRANK D. DICKSON, Vice Chairman
MORRIS B. SIMPSON, Secretary
J. F. HASSIG, Treasurer

SUBCOMMITTEES

Sections and Section Work: Rex L. Diveley, Chairman.
Practice of Medicine: P. T. Bohan, Chairman; J. V. Bell, Secretary.
Surgery, General and Abdominal: C. C. Nesselrode, Chairman; John H. Ogilvie, Secretary.
Obstetrics, Gynecology and Abdominal Surgery: H. F. VanOrden, Chairman; P. A. Gempel, Secretary.
Ophthalmology: R. J. Curdy, Chairman; A. N. Lemoine, Secretary.
Laryngology, Otology and Rhinology: A. J. Lorie, Chairman; Homer A. Beal, Secretary.
Pediatrics: Joseph B. Cowherd, Chairman; John Aull, Secretary.
Pharmacology and Therapeutics: William W. Duke, Chairman; W. Merritt Ketcham, Secretary.
Pathology and Physiology: Emsley T. Johnson, Chairman; Ralph E. Duncan, Secretary.
Nervous and Mental Diseases: E. T. Gibson, Chairman; Marvin L. Bills, Secretary.
Dermatology and Syphilology: William L. McBride, Chairman; R. L. Sutton Jr., Secretary.
Preventive and Industrial Medicine and Public Health: J. Harvey Jennett, Chairman; W. H. Hines, Secretary.
Urology: N. F. Ockerblad, Chairman; Clinton K. Smith, Secretary.
Orthopedic Surgery: C. B. Francisco, Chairman; H. Lewis Hess, Secretary.
Gastro-Enterology and Proctology: George E. Knappenberger, Chairman; A. C. Clasen, Secretary.
Radiology: C. Edgar Virden, Chairman; D. S. Dann, Secretary.
Registration: J. E. Castles, Chairman.
Technical Exhibits: Max Goldman, Chairman.
Scientific Exhibit: H. R. Wahl, Chairman.

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Hotels: Ira H. Lockwood, Chairman.
Printing and Badges: Albert S. Welch, Chairman.
Information: L. F. Barney, Chairman.
Publicity: A. Morris Ginsberg, Chairman.
Finance: J. F. Hassig, Chairman.
Women Physicians: Mary J. Lower, Chairman.
Transportation: M. W. Pickard, Chairman.
Entertainment:
Dinner to Delegates: James R. McVay, Chairman.
Opening General Meeting: Frank R. Teachenor, Chairman; Edwin Henry Schorer, Vice Chairman.
Ushers: J. Milton Singleton, Chairman.
President's Reception and Ball: Raymond E. Teall, Chairman.
Golf: Clarence S. Capell, Chairman; E. R. Deweese, Vice Chairman.
Alumni Dinners: Hermon S. Major, Chairman.
Fraternity Luncheons: Harry M. Gilkey, Chairman.
Trap Shooting: A. W. McAlester 3d, D. D. Stofer.
Service Clubs: M. A. Hanna.
Woman's Auxiliary: Mrs. Herbert L. Mantz, Chairman; Mrs. George H. Thiele, Secretary; Mrs. Harry C. Lapp, Treasurer; Mrs. Marvin L. Bills, Assistant.
Chairmen of Subcommittees:
Entertainment: Mrs. A. W. McAlester, Mrs. C. C. Dennie.
Exhibits: Mrs. Harrison C. Tripp.
Flowers: Mrs. Ralph Emerson Duncan.
Hostesses at Hotels: Mrs. Thomas G. Orr, Mrs. E. D. Twyman.
House: Mrs. Ralph Holbrook.
Music: Mrs. H. Lewis Hess.
Press and Publicity: Mrs. Herbert S. Valentine, Mrs. Wilbur A. Baker.
Printing and Supplies: Mrs. F. L. Feierabend, Mrs. H. J. Rinkel.
Registration: Mrs. Ira H. Lockwood, Mrs. Patrick H. Owens.
Reservations: Mrs. Evan S. Connell, Mrs. Damon Walthall.
Tickets: Mrs. James E. Stowers, Mrs. Joseph Welker.
Transportation: Mrs. E. Lee Miller, Mrs. D. D. Stofer.

ENTERTAINMENT

Dinner for Delegates and Officers

The Local Committee on Arrangements has arranged for a dinner and entertainment for the delegates and officers of the American Medical Association in the Banquet Hall of the Hotel Muehlebach, Monday evening, May 11. Cocktails at 6:30 and dinner at 7 o'clock.

Luncheon for Delegates

There will be a luncheon for the officers and members of the House of Delegates of the American Medical Association in the Trianon Cafe of the Hotel Muehlebach, Tuesday noon, May 12.

Opening General Meeting

The Opening General Meeting will be held in the north half of the arena of the Municipal Auditorium at 8 o'clock, Tuesday, May 12.

President's Reception

There will be a reception and ball in honor of the President of the American Medical Association Thursday evening, May 14, at 9 o'clock, in the Ballroom of the Hotel Muehlebach.

Dinner for Women Physicians

There will be a dinner for women physicians of the American Medical Association at 6:30 p. m., Wednesday, May 13, at the Hotel Newbern.

American Board of Obstetrics and Gynecology

The annual informal dinner and general conference of Diplomates of the American Board of Obstetrics and Gynecology will be held at the Hotel Kansas Citian, Wednesday, May 13, at 7 o'clock. Tickets may be secured at the door or by writing Dr. Joseph L. Baer, 104 South Michigan Avenue, Chicago.

Alpha Omega Alpha Dinner

The Alpha Omega Alpha Dinner will be held at 6 o'clock, Thursday, May 14. Dr. A. J. Carlson of the University of Chicago will speak on Trends in Modern Medical Education. Reservations at $2 a plate may be secured by addressing Dr. Carl Ferris, Hotel Muehlebach, Kansas City, Mo. Ladies are invited.

"Bring-Your-Husband" Dinner

The Woman's Auxiliary has arranged for the annual "Bring-Your-Husband" Dinner in the Pompeian Room of the Hotel Baltimore at 6 o'clock, Thursday, May 14. Dr. C. C. Dennie will be master of ceremonies and excellent entertainment has been secured. Tickets are $2 each.

Alumni Dinners

The Subcommittee on Alumni Dinners, of which Dr. Hermon S. Major is chairman, announces that alumni dinners will be held on the evening of Wednesday, May 13, as follows:

ST. LOUIS UNIVERSITY MEDICAL SCHOOL, Pompeian Room, Hotel Baltimore, A. B. Sinclair, chairman.

BARNES MEDICAL COLLEGE, Francis I Room, Hotel Baltimore, Solon E. Haynes, chairman.

UNIVERSITY OF KANSAS MEDICAL SCHOOL, Walnut Room, Hotel President, Donald R. Black, chairman.

UNIVERSITY MEDICAL COLLEGE, Aztec Room, Hotel President, Ambrose E. Eubank, chairman.

CREIGHTON UNIVERSITY MEDICAL SCHOOL, Cabinet and Colonial Dames Room, Hotel President, W. J. Feehan, chairman.

WASHINGTON UNIVERSITY MEDICAL SCHOOL, Roof Garden, Kansas City Club, B. Landis Elliott, chairman.

UNIVERSITY OF PENNSYLVANIA MEDICAL SCHOOL, Room J, University Club, Radford F. Pittam, chairman.

JEFFERSON MEDICAL COLLEGE, East Roof, Hotel Kansas Citian, Herbert L. Mantz, chairman.

RUSH MEDICAL COLLEGE, University of Chicago, Trianon Cafe, Hotel Muehlebach, 6:30 p. m., Graham Asher, chairman. Reservations at $2 a plate may be secured by addressing Dr. John G. Hayden, Hotel Muehlebach, Kansas City, Mo. Ladies are invited.

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE, Frederick C. Lamar, chairman.

JOHNS HOPKINS SCHOOL OF MEDICINE, James E. Stowers, chairman.

HARVARD UNIVERSITY MEDICAL SCHOOL, Harry C. Lapp, chairman.

UNIVERSITY OF ALABAMA SCHOOL OF MEDICINE, Alton L. Kelly, chairman.

UNIVERSITY OF ARKANSAS SCHOOL OF MEDICINE, Charles H. Wyatt, chairman.

STANFORD UNIVERSITY SCHOOL OF MEDICINE, M. C. Davis, chairman.

UNIVERSITY OF COLORADO SCHOOL OF MEDICINE, Ralph R. Coffey, chairman.

GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE, R. W. Anderson, chairman.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, Harry M. Gilkey, chairman.

UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE, W. E. Keith, chairman.

LOYOLA UNIVERSITY SCHOOL OF MEDICINE, Cecil E. Hassig, chairman.

STATE UNIVERSITY OF IOWA COLLEGE OF MEDICINE, Charles F. Lowry, chairman.

UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE, Walter Holbrook, chairman.

Fraternity and Group Luncheons

The subcommittee in charge of fraternity luncheons, under the chairmanship of Dr. Harry M. Gilkey, announces that fraternities will have luncheons on Wednesday noon, May 13, as follows:

ALPHA MU PI OMEGA, Hotel Kansas Citian, Pat Nunn, chairman.

ALPHA KAPPA KAPPA, Hotel President, David Braden, chairman.

OMEGA UPSILON PHI, Hotel Kansas Citian, C. K. Smith and John Bouslog, chairmen.

PHI CHI, Hotel Baltimore, Ralph Emerson Duncan, chairman.

NU SIGMA NU, Hotel President, E. H. Hashinger, chairman.

PHI ALPHA SIGMA, Hotel Kansas Citian, E. P. Heller, chairman.

PHI RHO SIGMA, Hotel President, Ralph Perry, chairman.

PHI BETA PI, Hotel Kansas Citian, Orval Withers, chairman.

THETA KAPPA PSI, Hotel Kansas Citian, Herluf Lund, chairman.

PHI DELTA EPSILON, Hotel Kansas Citian, L. M. Shapiro, chairman.

ALPHA EPSILON IOTA, Hotel President, Loraine Sherwood, chairman.

The "Get-to-Gether" luncheon of the Federation of American Sanatoria will be served at 12:30 p. m. Tuesday, May 12, at the Hotel Kansas Citian. The administrative session will take place at the Hotel Ambassador on Monday, May 11.

The luncheon for the Associated Diplomates of the National Board of Medical Examiners will be held at the Hotel President, Thursday, May 14, at 12:30 p. m.

WOMAN'S AUXILIARY

SUNDAY, MAY 10

4 to 7 p. m. Tea for National Board, honoring Mrs. R. N. Herbert; given by Board of Jackson County Woman's Auxiliary, assisted by officers of Woman's Auxiliaries to Wyandotte and Clay counties. Home of Mrs. C. C. Dennie.

MONDAY, MAY 11

10 to 12. National Board meeting, Francis I Room, Hotel Baltimore.

12:30 to 2. National Board Luncheon at Woman's City Club. Mrs. George Hoxie and Mrs. A. B. McGlothlan, hostesses.

2 to 3:30. National Board meeting, continued.

4 p. m. Drive and tea (complimentary).

7 p. m. Dinner honoring founders, officers and presidents of Woman's Auxiliaries to Missouri and Kansas. $1.50. Kansas City Country Club.

TUESDAY, MAY 12

8 a. m. Southern Breakfast, Hotel Baltimore, $1.

9 a. m. General Session of Woman's Auxiliary to A. M. A., Francis I Room, Hotel Baltimore.

12:30 to 2. Luncheon, honoring past presidents of National Auxiliary, Renaissance Room, Hotel Baltimore. $1.25.

2:30 to 3:30. Conference Groups, Hotel Baltimore, Mezzanine Floor.

3:45 to 5:30. Drive and Teas (complimentary).

8 p. m. Opening General Meeting at Auditorium.

WEDNESDAY, MAY 13

9 to 12. General Session, Francis I Room, Hotel Baltimore.

12:30 to 3. Annual Luncheon, Pompeian Room, Hotel Baltimore, Perry Bromberg, speaker. $1.50.

3:30 to 5:30. Drive and Teas (complimentary).

8 to 10 p. m. Gallery Walk, William Rockhill Nelson Gallery of Art.

8 to 9. Lecture, "Silver."

THURSDAY, MAY 14

10 a. m. Postconvention board meeting.

12:30 to 3. Luncheon, Woman's City Club, Tom Collins, speaker. $1.

7 p. m. "Bring-Your-Husband" Dinner, Pompeian Room, Hotel Baltimore. $2.

9 p. m. President's Ball and Reception, Hotel Muehlebach.

FRIDAY, MAY 15

Forenoon. Golf, Mrs. C. R. McCubbin, chairman, or Tours.

1 p. m. Luncheon at Country Club. (Probably Blue Hills, $1).

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WOMEN PHYSICIANS

The headquarters of women physicians will be at the Hotel Newbern. Marie Esmond is chairman of the local committee on arrangements; Elvenor Ernest, coordinating chairman, and Mary J. Lower, vice chairman.

The following program has been arranged:

SUNDAY, MAY 10

9 a. m. Registration.

10 a. m. Meeting of the Board of Directors.

1 p. m. Luncheon. Greetings from the Local Committee of Missouri.

3 p. m. Trip in sightseeing bus.

7 p. m. Dinner, Bertha Van Hoosen (Illinois) presiding: "Our Medical Authors."

MONDAY, MAY 11

10 a. m. General meeting of the association.

1 p. m. Luncheon. Mabel E. Gardner (Ohio) presiding: "The Woman Physician: Has She Arrived?"

3 p. m. Trip in sightseeing bus.

7 p. m. Dinner (inaugural), S. Josephine Baker (New York) presiding.

TUESDAY, MAY 12

9 a. m. Meeting of new board of directors.

10 a. m. General meeting.

1 p. m. Luncheon. Frances Eastman Rose (Washington) presiding. Topic to be announced. Adjournment.

GOLF TOURNAMENT

The American Medical Golfing Association will hold its twenty-second annual tournament at the Mission Hills and the Kansas City Country Clubs in Kansas City on Monday, May 11.

Thirty-six holes of golf will be played in competition for the seventy trophies and prizes in the nine events. Trophies will be awarded for the Association Championship, thirty-six holes gross, the Will Walter Trophy; the Association Handicap Championship, thirty-six holes net, the Detroit Trophy; the Championship Flight, First Gross, thirty-six holes, the St. Louis Trophy; the Championship Flight, First Net, thirty-six holes, the President's Trophy; the Eighteen Hole Championship, the Golden State Trophy; the Eighteen Hole Handicap Championship, the Ben Thomas Trophy; the Maturity Event, limited to Fellows over 60 years of age, the Minneapolis Trophy; the Oldguard Championship, limited to competition of past presidents, the Wendell Phillips Trophy, and the Kickers' Handicap, the Wisconsin Trophy. Other events and prizes will be announced at the first tee.

MEMBERS IN EVERY STATE OF THE UNION

M. M. Cullom of Nashville, Tenn., is president and W. Albert Cook of Tulsa, Okla., and Walt P. Conaway of Atlantic City, N. J., are vice presidents of the American Medical Golfing Association, which was organized in 1915 by Will Walter,

Wendell Phillips and Gene Lewis, and now totals 1,150 members, representing every state in the Union. The living past presidents include Thomas Hubbard of Toledo, Ohio, Fred Bailey of St. Louis, Edward Martin of Media, Pa., Robert Moss of LaGrange, Texas, Charlton Wallace of New York, Will Walter of Chicago and Charlottesville, Va., James Eaves of Oakland, Calif., D. Chester Brown of Danbury, Conn., Samuel Childs of Denver, W. D. Shelden of Rochester, Minn., Walter Schaller of San Francisco, Edwin Zabriskie of New York, Frank A. Kelly of Detroit, John Welsh Croskey of Philadelphia, Homer K. Nicoll of Chicago and Charles Lukens of Toledo.

KANSAS CITY COMMITTEE

The Kansas City Committee is under the general chairmanship of Clarence Capell, Rialto Building, Kansas City, Mo. He will be assisted by E. R. Deweese, Vice Chairman, and L. G. Allen, J. Wallace Beil, C. D. Cantrell, Logan Clendening, C. C. Dennie, Hugh A. Gestring, A. C. Griffith, John S. Knight, T. A. Kyner, A. W. McAlester Jr., Virgil W. McCarty, C. R. McCubbin, C. A. McGuire, C. J. Mullen, Paul J. O'Connell, A. J. Rettenmaier, H. M. Roberts, E. Kip Robinson, C. E. Sanders, J. S. Snider, Albert S. Welch and D. A. Williams.

TWO COURSES

To accommodate comfortably the large entry that is anticipated, the Kansas City Committee has arranged play over two very fine courses, which touch corners: the Mission Hills Country Club and the Kansas City Country Club. Their club houses are only one mile apart and ample transportation between the two has been arranged. Dinner for all players will be served in the Mission Hills Club House.

APPLICATION FOR MEMBERSHIP

All male Fellows of the American Medical Association are eligible and cordially invited to become members of the A. M. G. A. Write the executive secretary, Bill Burns, 2020 Olds Tower, Lansing, Mich., for an application blank. Participants in the A. M. G. A. tournament are required to furnish their home club handicap, signed by the secretary. No handicap over 30 is allowed, except in the Kickers' (Blind Bogey). Only active members of the A. M. G. A. may compete for prizes. No trophy is awarded a Fellow who is absent from the annual dinner.

The twenty-second tournament of the American Medical Golfing Association promises to be a happy affair. The officers anticipate that some two hundred medical golfers from all parts of the United States will play.

SKEET AND TRAP SHOOT

The American Medical Skeet and Trap Shooters Association has been formed by a group of Kansas City physicians and it is hoped that the organization will be permanent. On the afternoon of May 10 there will be a Skeet and Trap Shoot at Elliott Gun Park.

Trap shoot—fifty sixteen yard targets:
Class A, 94 per cent.
Class B, 89 per cent.
Class C, 84 per cent.

Skeet shoot—fifty targets:
Class A, 21 to 25.
Class B, 17 to 21.
Class C, 16 or below.

A trophy will be given for each class. Our transportation will leave from the Hotel President at 1 o'clock, May 10. Address all correspondence to Dr. A. W. McAlester III, 2003 Bryant Building, Kansas City, Mo., or to Dr. Dar Stofer, Professional Building, Kansas City, Mo.

Bring your shotguns as well as your golf clubs.

PRELIMINARY PROGRAM OF THE SCIENTIFIC ASSEMBLY

PROGRAM OF THE OPENING GENERAL MEETING

North Half of Arena, Municipal Auditorium

Tuesday, May 12, 8 p. m.

Music.
Call to Order by the President, JAMES S. MCLESTER.
Invocation. BISHOP ROBERT NELSON SPENCER.
Welcome to Kansas City:
HON. BRYCE B. SMITH, Mayor of Kansas City.
FRANK R. TEACHENOR, President, Jackson County Medical Society.
HON. GUY B. PARK, Governor of Missouri.
ROSS A. WOOLSEY, President, Missouri State Medical Association.
PAUL M. KRALL, President, Wyandotte County Medical Society.
HOWARD L. SNYDER, President, Kansas Medical Society.
HON. ALFRED M. LANDON, Governor of Kansas.
Announcements. EDWARD H. SKINNER, Chairman, Local Committee on Arrangements.
Music.
Introduction and Installation of President-Elect J. TATE MASON, Seattle.
Address. J. TATE MASON.
Presentation of Medal to Retiring President JAMES S. MCLESTER. ROCK SLEYSTER, Chairman of the Board of Trustees.

THE PROGRAMS OF THE SECTIONS

Outline of the Scientific Proceedings—The Preliminary Program and the Official Program

The following papers are announced to be read before the various sections. The order here is not necessarily the order that will be followed in the Official Program, nor is the list complete. The Official Program will be similar to the programs issued in previous years and will contain the final program of each section with abstracts of the papers, as well as lists of committees, program of the Opening General Meeting, list of entertainments, map of Kansas City, and other information. To prevent misunderstandings and protect the interest of advertisers, it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each Fellow on registration.

SECTION ON PRACTICE OF MEDICINE

MEETS IN NORTH HALF OF ARENA, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—WILLIAM J. KERR, San Francisco.
Vice Chairman—CLARENCE L. ANDREWS, Atlantic City, N. J.
Secretary—JOSEPH T. WEARN, Cleveland.
Executive Committee—C. T. STONE, Galveston, Texas; GEORGE R. MINOT, Boston; WILLIAM J. KERR, San Francisco.

Wednesday, May 13—9 a. m.

Von Recklinghausen's Neurofibromatosis: Unusual Clinical Manifestations in Sixteen Cases (Lantern Demonstration).
JOHN C. SHARPE and RICHARD H. YOUNG, Omaha.
Discussion to be opened by W. M. KETCHAM, Kansas City, Kan., and J. J. ELLER, New York.

The Regression and Disappearance of the Signs of Rheumatic Heart Disease (Lantern Demonstration).
EDWARD F. BLAND, T. DUCKETT JONES and PAUL D. WHITE, Boston.

The Frank Billings Lecture.
GEORGE BLUMER, New Haven, Conn.

Undulant Fever: Further Clinical and Epidemiologic Observations in Iowa (Lantern Demonstration).
A. V. HARDY, Baltimore; C. F. JORDAN, Des Moines, Iowa, and I. H. BORTS, Iowa City.
Discussion to be opened by FRED E. ANGLE, Kansas City, Kan.

Practical Therapeutic Aspects of Helium Therapy (Lantern and Motion Picture Demonstration).
ALVAN L. BARACH, New York.
Discussion to be opened by FRANCIS M. RACKEMANN, Boston, and C. K. MAYTUM, Rochester, Minn.

Thursday, May 14—9 a. m.

JOINT MEETING WITH SECTION ON PHARMACOLOGY AND THERAPEUTICS

The Clinical Use and Dangers of Hypnotics (Lantern Demonstration). SOMA WEISS, Boston.
Chairman's Address. WILLIAM J. KERR, San Francisco.
The Clinical Use of Diuretics (Lantern Demonstration).
JOSEPH M. HAYMAN Jr., Cleveland.
Clinical Evaluation of Fever Therapy (Motion Picture Demonstration). STAFFORD L. WARREN, Rochester, N. Y.
Notes on Treatment of Histolytica Infection in Man (Lantern Demonstration). W. M. JAMES, Panama, C. Z.

Friday, May 15—9 a. m.

Election of Officers
The Etiology of Polyneuritis in the Alcoholic Addict (Lantern Demonstration).
NORMAN JOLLIFFE and C. N. COLBERT, New York.
Oral Complications of Chronic Alcoholism: Significance, Diagnosis and Treatment (Lantern Demonstration).
M. A. BLANKENHORN, Cincinnati.
Discussion on papers of DRS. JOLLIFFE and COLBERT and DR. BLANKENHORN to be opened by H. B. MULHOLLAND, University, Va., and W. H. SEBRELL, Washington, D. C.
Address. LORD HORDER, London, England.
Effect of Coughing, Straining, Forced Breathing on Arterial and Intrathoracic Pressure in Man (Lantern Demonstration).
R. A. WOODBURY, W. F. HAMILTON and H. T. HARPER Jr., Augusta, Ga.
Discussion to be opened by RALPH H. MAJOR, Kansas City, Mo., and L. N. KATZ, Chicago.
Hepatosplenography by Means of Stabilized Thorium Dioxide Sol (Lantern Demonstration).
WALLACE M. YATER and LAURENCE S. OTELL, Washington, D. C.
Discussion to be opened by LEO G. RIGLER, Minneapolis.
Hypoparathyroidism: The Treatment of Chronic Cases and an Explanation of "Refractiveness" to Parathyroid Extract (Lantern Demonstration).
R. H. FREYBERG, R. L. GRANT and M. A. ROSA, Ann Arbor, Mich.
Discussion to be opened by JOSEPH C. AUB, Boston, and PETER T. BOHAN, Kansas City, Mo.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN MUSIC HALL, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—HOWARD M. CLUTE, Boston.
Vice Chairman—WILLIAM F. RIENHOFF, Baltimore.
Secretary—HENRY W. CAVE, New York.
Executive Committee—HAROLD BRUNN, San Francisco; JOHN L. YATES, Milwaukee; HOWARD M. CLUTE, Boston.

Wednesday, May 13—9 a. m.

Peritoneal Immunization (Lantern Demonstration).
HERBERT L. JOHNSON, Boston.
The Management of Patients with Bleeding Peptic Ulcer (Lantern Demonstration).
LEON GOLDMAN, San Francisco.
Permanence of Cure Following Simple Closure of Ruptured Duodenal Ulcers (Lantern Demonstration).
DONALD GUTHRIE, Sayre, Pa.
Treatment of Mechanical Ileus by Intestinal Stripping: A Clinical and Experimental Study (Lantern Demonstration).
ALTON OCHSNER and AMBROSE H. STORCK, New Orleans.
Cholangiographic Demonstration of Biliary Dyssynergia and Other Obstructive Lesions of the Gallbladder and Bile Ducts (Lantern Demonstration).
R. RUSSELL BEST and N. FREDERICK HICKEN, Omaha.
Imperforate Anus; Bowel Opening into Urethra; Hypospadias; Presentation of New Plastic Methods (Lantern Demonstration). HUGH H. YOUNG, Baltimore.

Thursday, May 14—9 a. m.

Dynamic Tests in Thyrotoxicosis (Lantern Demonstration).
WILLARD BARTLETT JR., St. Louis.
Alterations in Liver Function Associated with Hyperthyroidism (Lantern Demonstration).
FREDERICK A. COLLER, Ann Arbor, Mich.
Hypoparathyroidism Following Operations for Hyperparathyroidism Due to Adenoma (Lantern Demonstration).
ROY D. MCCLURE, Detroit.
Chairman's Address: The Problem of Cancer of the Pancreas (Lantern Demonstration). HOWARD M. CLUTE, Boston.
Tumors of the Spinal Cord and Their Relation to Medicine and Surgery (Lantern Demonstration).
WINCHELL MCK. CRAIG, Rochester, Minn.
Recent Progress in the Management of Cancer of the Rectum (Lantern Demonstration).
RICHARD B. CATTELL, Boston.

Friday, May 15—9 a. m.

Election of Officers
The Apparent Influence of Hydrochloric Acid on Bone Growth in Fractures (Lantern Demonstration).
NELSON W. CORNELL and ALICE R. BERNHEIM, New York.
Injuries of the Thoracic Viscera (Lantern Demonstration).
DANIEL C. ELKIN, Atlanta, Ga.
The Treatment of Large Pulmonary Abscesses: Report of Ten Cases (Lantern Demonstration).
CLARENCE E. BIRD, Louisville, Ky.
The Indications and Limitations on About 150 Cases of Intrapleural Pneumolysis (Lantern Demonstration).
GEORGE L. STIVERS, Fall River, Mass.
Skin Grafting After Extensive Epithelial Loss, with Special Reference to That Following Burns (Lantern Demonstration). EARL C. PADGETT, Kansas City, Mo.
Plantar Warts, Flaps and Grafts.
VILRAY PAPIN BLAIR, St. Louis.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

MEETS IN MUSIC HALL, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—LYLE G. MCNEILE, Los Angeles.
Vice Chairman—WILLIAM J. CARRINGTON, Atlantic City, N. J.
Secretary—EVERETT D. PLASS, Iowa City.
Executive Committee—JOSEPH B. DE LEE, Chicago; JAMES R. MCCORD, Atlanta, Ga.; LYLE G. MCNEILE, Los Angeles.

Wednesday, May 13—2 p. m.

The Blood in Normal Pregnancy (Lantern Demonstration).
FRANK H. BETHELL, Ann Arbor, Mich.
Constriction Ring Dystocia (Lantern Demonstration).
LOUIS RUDOLPH, Chicago.
Vascular Collapse in Toxemic Patients (Lantern Demonstration).
FRED L. ADAIR, Chicago, and A. B. HUNT, Rochester, Minn.
Chorionepithelioma in Philadelphia (Lantern Demonstration).
EDWARD A. SCHUMANN and ADRIAN W. VOEGELIN, Philadelphia.
Carcinoma of the Cervical Stump (Lantern Demonstration).
LEWIS C. SCHEFFEY, Philadelphia.
The Treatment of Carcinoma of the Cervix by the Combined Use of Relatively Small Amounts of Radium and High Voltage Roentgen Rays (Lantern Demonstration).
DAVID R. MURPHEY JR., Tampa, Fla.

Thursday, May 14—2 p. m.

Scopolamine-Morphine Seminarcosis (So-Called Twilight Sleep).
OTTO S. KREBS, J. L. WULFF and HELMAN C. WASSERMANN, St. Louis.
Three Years' Experience with Pentobarbital-Sodium and Scopolamine in Obstetrics at the Evanston Hospital (Lantern Demonstration).
CHARLES E. GALLOWAY, Evanston, Ill.

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Paraldehyde and Benzyl Alcohol.
HOWARD F. KANE and GEORGE B. ROTH, Washington, D. C.

Analgesia in Labor Considered from the Points of View of Medicine and Psychology.
GERTRUDE NIELSEN, Oklahoma City.

Chairman's Address: Trends in American Obstetrics During the First Third of This Century.
LYLE G. McNEILE, Los Angeles.

The Conservative Treatment of Abortion (Lantern Demonstration).
JAMES R. REINBERGER and PERCY B. RUSSELL JR., Memphis, Tenn.

Friday, May 15—2 p. m.

Election of Officers

The Diagnosis and Classification of Menstrual Disturbances.
JOHN C. BURCH, G. S. McCLELLAN and CLAUD D. JOHNSON, Nashville, Tenn.

The Operative Observations in Periodic Intermenstrual Pain.
LAWRENCE R. WHARTON and ERLE HENRIKSEN, Baltimore.

The Diagnosis of Ectopic Pregnancy (Lantern Demonstration).
ERWIN VON GRAFF, Des Moines, Iowa.

Cesarean Section in Los Angeles County.
WILLIAM BENBOW THOMPSON, Los Angeles.

Diabetes and Pregnancy. HOWARD F. WEST, Los Angeles.

Heart Disease and Pregnancy (Lantern Demonstration).
JULIUS JENSEN, St. Louis.

SECTION ON OPHTHALMOLOGY

MEETS IN LITTLE THEATER, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—JOHN GREEN, St. Louis.
Vice Chairman—ALBERT C. SNELL, Rochester, N. Y.
Secretary—PARKER HEATH, Detroit.
Executive Committee—WILLIAM C. FINNOFF,* Denver; ARTHUR J. BEDELL, Albany, N. Y.; JOHN GREEN, St. Louis.

Wednesday, May 13—9 a. m.

Chairman's Address. JOHN GREEN, St. Louis.

Tumors of the Eyelids: A Clinical and Pathologic Study (Lantern Demonstration).
C. S. O'BRIEN and A. E. BRALEY, Iowa City.
Discussion to be opened by ARNOLD KNAPP and ALGERNON B. REESE, New York.

Adenocarcinoma of the Orbit (Lantern Demonstration).
WILLIAM L. BENEDICT, Rochester, Minn.
Discussion to be opened by MARTIN COHEN, New York, and WALTER E. CAMP, Minneapolis.

Causes of Blindness in Pennsylvania from the Medical and Social Aspects. ALFRED COWAN, Philadelphia.
Discussion to be opened by E. V. L. BROWN, Chicago, and WILLIAM H. CRISP, Denver.

The True Importance of Aniseikonia.
EDWARD JACKSON, Denver.
Discussion to be opened by ADELBERT AMES, Hanover, N. H., and WALTER B. LANCASTER, Boston.

Cataracts Following Dinitrophenol Treatment for Obesity (Lantern Demonstration).
WARREN D. HORNER, San Francisco.
Discussion to be opened by ARTHUR J. BEDELL, Albany, N. Y., and ALBERT D. FROST, Columbus, Ohio.

Thursday, May 14—9 a. m.

A Statistical Study of Functional Muscle Tests in Axial Myopia (Lantern Demonstration).
ALBERT C. SNELL, Rochester, N. Y.
Discussion to be opened by MEYER WIENER, St. Louis, and THOMAS D. ALLEN, Chicago.

A Critical Analysis of Glaucoma Operations (Lantern Demonstration). WEBB W. WEEKS, New York.
Discussion to be opened by HARRY S. GRADLE and PHILIP D. O'CONNOR, Chicago.

Iridectomy with Cyclodialysis for Reduction of Ocular Tension (Lantern Demonstration).
JOHN M. WHEELER, New York.
Discussion to be opened by ALLEN GREENWOOD, Boston, and FRANK E. BUBCH, St. Paul.

Eye Complications in Meningococcic Meningitis (Lantern Demonstration). NATHAN K. LAZAR, Chicago.
Discussion to be opened by ARCHIBALD L. HOYNE, Chicago, and PARKER HEATH, Detroit.

Demonstration Session

New Methods in Galvanic and Diathermic Treatment of Retinal Detachment. CLIFFORD B. WALKER, Los Angeles.

Grafts from the Prepuce and Labia Minora for the Conjunctiva and Restoration of the Socket (Lantern Demonstration).
GRADY E. CLAY, Atlanta, Ga.

Goniotomy, an Operation for Chronic Primary Glaucoma (Lantern and Motion Picture Demonstration).
OTTO BARKAN, San Francisco.

Bilateral Anterior Lenticonus (Lantern Demonstration).
EVERETT C. MOULTON, Fort Smith, Ark.

Retrobulbar Injection Within the Muscular Cone or Cone Injection (Lantern Demonstration).
WALTER S. ATKINSON, Watertown, N. Y.

The Use of Callahan Tubes in the Treatment of Chronic Dacryocystitis (Motion Picture Demonstration).
CHARLES N. SPRATT, Minneapolis.

Friday, May 15—9 a. m.

Executive Session

Election of Officers

Effect of Intra-Ocular Typhoid Antibody Concentration on Experimental Corneal Ulcers (Lantern Demonstration).
ALBERT L. BROWN, Cincinnati.
Discussion to be opened by CHARLES A. BAHN, New Orleans, and PHILLIPS THYGESON, Iowa City.

Malformations of the Posterior Segment of the Human Eye: An Embryologic Interpretation.
BERTHA A. KLIEN, Chicago.
Discussion to be opened by HENRY C. HADEN, Houston, Texas, and DERRICK T. VAIL, Cincinnati.

The Cortical Innervation of Ocular Movements (Lantern Demonstration).
NORMAN P. SCALA, Washington, D. C., and ERNEST A. SPIEGEL, Philadelphia.
Discussion to be opened by ALFRED BIELSCHOWSKY, Hanover, N. H.

Clinical and Anatomic Observations in Fellow Eyes with Chronic Tuberculous Uveitis (Lantern Demonstration).
HARVEY D. LAMB, St. Louis.
Discussion to be opened by BEULAH CUSHMAN, Chicago.

A Study of More Than Two Hundred Postoperative Strabismus Cases (Lantern Demonstration).
J. L. BRESSLER, Chicago.
Discussion to be opened by CONRAD BERENS, New York, and ALBERT N. LEMOINE, Kansas City, Mo.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

MEETS IN LITTLE THEATER, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—RALPH A. FENTON, Portland, Ore.
Vice Chairman—ERNEST M. SEYDELL, Wichita, Kan.
Secretary—GORDON B. NEW, Rochester, Minn.
Executive Committee—WILLIAM P. WHERRY, Omaha; JOHN J. SHEA, Memphis, Tenn.; RALPH A. FENTON, Portland, Ore.

Wednesday, May 13—2 p. m.

Pitfalls in the Diagnosis and Treatment of Retropharyngeal Abscess in Children (Lantern Demonstration).
LYMAN G. RICHARDS, Boston.
Discussion to be opened by SAMUEL IGLAUER, Cincinnati; HORACE R. LYONS, Chicago, and E. FRANK CHASE, Seattle.

Chronic Sinusitis: The Source and Carrier of the Common Cold (Lantern Demonstration).
EDWARD CECIL SEWALL, San Francisco.
Discussion to be opened by VIRGIL W. MCCARTY, Kansas City, Mo.; T. R. GITTINS, Sioux City, Iowa, and HOWARD C. BALLENGER, Winnetka, Ill.

* Deceased.

Osteomyelitis of the Frontal Bone (Lantern Demonstration).
HARRIS P. MOSHER, Boston.
Discussion to be opened by ERNEST SACHS, St. Louis; JOHN J. SHEA, Memphis, Tenn., and O. JASON DIXON, Kansas City, Mo.

The Chronicity of Sinus Disease and Its Relation to Middle Ear Infection and Deafness (Lantern Demonstration).
MARVIN M. CULLOM, Nashville, Tenn.
Discussion to be opened by GORDON D. HOOPLE, Syracuse, N. Y.; HARRY L. BAUM, Denver, and CARROLL L. SMITH, Spokane, Wash.

The Etiology and Treatment of Hemorrhage of the Nose and Throat (Lantern Demonstration).
HENRY M. GOODYEAR, Cincinnati.
Discussion to be opened by FRANK R. SPENCER, Boulder, Colo.; SAM E. ROBERTS, Kansas City, Mo., and THOMAS C. GALLOWAY, Evanston, Ill.

Thursday, May 14—2 p. m.

Chairman's Address: The Physiologic Approach to Otolaryngology (Lantern Demonstration).
RALPH A. FENTON, Portland, Ore.

The Autonomic Nervous System in Relation to Otolaryngology (Lantern Demonstration). ALBERT KUNTZ, St. Louis.
Discussion to be opened by LEO STONE, Topeka, Kan.; GORDON F. HARKNESS, Davenport, Iowa, and HARRIS H. VAIL, Cincinnati.

The Galvanic Falling Reaction in Patients with Verified Intracranial Neoplasms (Lantern Demonstration).
LOYAL DAVIS and EDWIN J. BLONDER, Chicago.

The Vestibular (Bárány) Tests in the Diagnosis and Localization of Intracranial Lesions: A Report of Fifteen Proved Cases (Lantern Demonstration).
GEORGE M. COATES, BENJAMIN H. SHUSTER and HERMAN B. SLOTKIN, Philadelphia.
Discussion on papers of DRS. DAVIS and BLONDER and DRS. COATES, SHUSTER and SLOTKIN to be opened by WINCHELL MCK. CRAIG, Rochester, Minn.; CLAUDE T. UREN, Omaha, and JOHN C. MCKINLEY, Minneapolis.

The Diagnosis and Treatment of Primary Malignant Disease of the Tracheobronchial Tree: A Report of 140 Cases Diagnosed by Removal of Tissue at Bronchoscopy (Lantern Demonstration).
PORTER P. VINSON, Rochester, Minn.
Discussion to be opened by JOHN D. KERNAN, New York; EDWARD H. SKINNER, Kansas City, Mo., and MILLARD F. ARBUCKLE, St. Louis.

Late Results Following Operations for the Cure of Carcinoma of the Larynx (Lantern Demonstration).
SAMUEL J. CROWE and EDWIN N. BROYLES, Baltimore.
Discussion to be opened by GABRIEL TUCKER, Philadelphia; MURDOCK S. EQUEN, Atlanta, Ga., and GORDON B. NEW, Rochester, Minn.

Friday, May 15—2 p. m.

Election of Officers

Otitis Media in Infants and Adults: A Histopathologic Study (Lantern Demonstration).
HERMAN SEMENOV, Los Angeles.
Discussion to be opened by WILLIAM A. WAGNER, New Orleans.

Petrositis (Lantern Demonstration).
H. J. PROFANT, Santa Barbara, Calif.

Osteomyelitis of the Inferior Surface of the Petrous Pyramid (Lantern Demonstration).
WELLS P. EAGLETON, Newark, N. J.
Discussion on papers of DRS. PROFANT and EAGLETON to be opened by GEORGE M. COATES, Philadelphia; HAROLD I. LILLIE, Rochester, Minn., and MERVIN C. MYERSON, New York.

Neuralgias and Ear Symptoms Associated with Disturbed Function of the Temporomandibular Joint (Lantern Demonstration). JAMES B. COSTEN, St. Louis.
Discussion to be opened by THOMAS E. CARMODY, Denver, and ROLAND M. KLEMME and WENDELL G. SCOTT, St. Louis.

Glossopharyngeal Neuralgia (Lantern Demonstration).
WALTER B. HOOVER and JAMES L. POPPEN, Boston.
Discussion to be opened by J. JAY KEEGAN, Omaha; EDWARD D. KING, Cincinnati, and FRENCH K. HANSEL, St. Louis.

SECTION ON PEDIATRICS

MEETS IN NORTH HALF OF ARENA, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—HORTON R. CASPARIS, Nashville, Tenn.
Vice Chairman—HUGH L. DWYER, Kansas City, Kan.
Secretary—RALPH M. TYSON, Philadelphia.
Executive Committee—ALFRED A. WALKER, Birmingham, Ala.; A. GRAEME MITCHELL, Cincinnati; HORTON R. CASPARIS, Nashville, Tenn.

Wednesday, May 13—2 p. m.

Chairman's Address: The Preventive Aspects of Poor Mental Health. HORTON R. CASPARIS, Nashville, Tenn.

Surgical Aspects of Chronic Lung Infections in Children (Lantern Demonstration). EVARTS A. GRAHAM, St. Louis.

Acute Infective Laryngotracheobronchitis of Children (Lantern and Motion Picture Demonstration).
CHEVALIER JACKSON and CHEVALIER L. JACKSON, Philadelphia.

Appendicitis in Children: A Survey of Three Hundred Cases (Lantern Demonstration).
ADOLPH G. DESANCTIS and EDWARD W. PETERSON, New York.

Mechanical Lesions of the Appendix in Children as a Basis for Appendicitis (Lantern Demonstration).
PERCIVAL NICHOLSON, Ardmore, Pa.

Xanthomatosis (Schüller-Christian's Disease) (Lantern Demonstration). ROBERT A. STRONG, New Orleans.

Thursday, May 14—2 p. m.

The Treatment of Chorea by Means of Electropyrexia (Lantern and Motion Picture Demonstration).
C. A. NEYMANN and S. L. OSBORNE, Chicago.
Discussion to be opened by MAURICE L. BLATT, Chicago.

Active Artificial Immunization in Diphtheria: The Relative Effectiveness of Various Antigens, and the Duration of the Immunity (Lantern Demonstration).
JEAN V. COOKE, St. Louis.

The Classification and Prognosis of Glomerular Nephritis in Childhood (Lantern Demonstration).
ALBERT W. SNOKE, San Francisco.

The Chicago City-Wide Plan for the Care of Premature Infants (Lantern Demonstration). JULIUS H. HESS, Chicago.

Lip Reading and the Intelligence Quotient of the Hard of Hearing Child.
APHRODITE J. HOFSOMMER, Webster Groves, Mo.

Segmental Neuralgia in Childhood Simulating Visceral Disease (Lantern and Motion Picture Demonstration).
JOHN HART DAVIS, Cleveland.

Friday, May 15—2 p. m.

Election of Officers

Allergy as the Cause of Frequent Colds and Chronic Coughs (Lantern Demonstration).
NORMAN WARD CLEIN, Seattle.

Voluntary Food Habits of Normal Children (Lantern Demonstration). CLIFFORD SWEET, Oakland, Calif.

Changes in Acid Base Equilibrium in Whooping Cough: Relation to the Underlying Pathogenesis of the Disease. Therapeutic Significance (Lantern Demonstration).
JOSEPH C. REGAN, Brooklyn.

Immunization Against Infantile Paralysis (Lantern Demonstration).
EMIL BOGEN, Olive View, Calif., and M. A. GIFFORD, Bakersfield, Calif.

Significance of Poliocidal Substances in Resistance and Recovery from Poliomyelitis (Lantern Demonstration).
PAUL H. HARMON, Chicago.

Intravenous Treatment of Meningococcic Meningitis with Meningococcus Antitoxin (Lantern Demonstration).
ARCHIBALD L. HOYNE, Chicago.

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SECTION ON PHARMACOLOGY AND THERAPEUTICS

MEETS IN OUTSIDE COMMITTEE ROOM, WYANDOTTE STREET SIDE, FOURTH FLOOR, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—Chauncey D. LEAKE, San Francisco.
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Secretary—RUSSELL L. HADEN, Cleveland.
Executive Committee—JOHN H. MUSSER, New Orleans; CARL H. GREENE, New York; CHAUNCEY D. LEAKE, San Francisco.

Wednesday, May 13—9 a. m.

Studies on the Optimal Dosage of Estrogenic Substances (Lantern Demonstration). CHARLES MAZER, Philadelphia.
Discussion to be opened by J. P. PRATT, Detroit.

An Extract of the Adrenal Cortex Effective in Addison's Disease (Lantern Demonstration).
WILLARD O. THOMPSON, Chicago.
Discussion to be opened by RUSSELL M. WILDER, Rochester, Minn.

The Rôle of the Thymus and Pineal Gland in Growth and Development.
LEONARD G. ROWNTREE and N. H. EINHORN, Philadelphia, and A. M. HANSON, Faribault, Minn.

Chairman's Address: The Practical Pharmacology of Central Nervous System Depressant Drugs.
CHAUNCEY D. LEAKE, San Francisco.

Experimental and Clinical Observations Regarding Angina Pectoris and Some Related Symptoms (Lantern Demonstration).
D. E. JACKSON and HELEN L. JACKSON, Cincinnati.

Further Studies on the Mechanism of Action and the Relative Effectiveness of the Newer Diuretics (Lantern Demonstration).
GEORGE R. HERRMANN and GEORGE M. DECHERD JR., Galveston, Texas.
Discussion to be opened by JOSEPH M. HAYMAN JR., Cleveland.

Thursday, May 14—9 a. m.

JOINT MEETING WITH SECTION ON PRACTICE OF MEDICINE, NORTH HALF OF ARENA, MUNICIPAL AUDITORIUM

The Clinical Use and Dangers of Hypnotics (Lantern Demonstration). SOMA WEISS, Boston.

Address. WILLIAM J. KERR, San Francisco.

The Clinical Use of Diuretics (Lantern Demonstration).
JOSEPH M. HAYMAN JR., Cleveland.

Clinical Evaluation of Fever Therapy (Motion Picture Demonstration). STAFFORD L. WARREN, Rochester, N. Y.

Notes on Treatment of Histolytica Infection in Man (Lantern Demonstration). W. M. JAMES, Panama, C. Z.

Friday, May 15—9 a. m.

Election of Officers

Cinchophen—Is There a Safe Method of Administration (Lantern Demonstration)?
WALTER L. PALMER and PAUL S. WOODALL, Chicago.
Discussion to be opened by MANFRED W. COMFORT, Rochester, Minn.

Individualizing Time of Administration of Insulin; Use of Postprandial Insulin. MILTON PLOTZ, Brooklyn.
Discussion to be opened by RALPH H. MAJOR, Kansas City, Mo.

Results of Dietary and Medical Treatment in Disease of the Gallbladder (Lantern Demonstration).
J. R. TWISS and C. H. GREENE, New York.
Discussion to be opened by GEORGE B. EUSTERMAN, Rochester, Minn.; EVARTS A. GRAHAM, St. Louis, and J. M. BLACKFORD, Seattle.

The Present Status of Research and Teaching in Pharmacology.
NORMAN A. DAVID, Cincinnati, and GEORGE A. EMERSON, Morgantown, W. Va.
Discussion to be opened by H. B. HAAG, Richmond, Va., and O. W. BARLOW, Cleveland.

Hypersensitiveness to Cold, with Local and Systemic Manifestations of a Histamine-like Character: Its Amenability to Treatment (Lantern Demonstration).
BAYARD T. HORTON, Rochester, Minn.
Discussion to be opened by W. W. DUKE, Kansas City, Mo.

A Pharmacologic Study of the Toxemia Theory of Surgical Shock (Lantern Demonstration).
CARL A. DRAGSTEDT, Chicago.
Discussion to be opened by ALFRED BLALOCK, Nashville, Tenn., and D. B. PHEMISTER, Chicago.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN OUTSIDE COMMITTEE ROOM, WYANDOTTE STREET SIDE, FOURTH FLOOR, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—HENRY C. SWEANY, Chicago.
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Secretary—J. J. MOORE, Chicago.
Executive Committee—WILLIAM CARPENTER MACCARTY, Rochester, Minn.; ELIAS P. LYON, Minneapolis; HENRY C. SWEANY, Chicago.

Wednesday, May 13—2 p. m.

Chairman's Address: Pathologic Interpretation of Roentgenologic Shadows of Pneumoconiosis (Lantern Demonstration). HENRY C. SWEANY, Chicago.

Laboratory Diagnosis of Infectious Mononucleosis (Lantern Demonstration). ISRAEL DAVIDSOHN, Chicago.
Discussion to be opened by RICHARD H. JAFFÉ, Chicago, and A. S. GIORDANO, South Bend, Ind.

Chronic Thyroiditis (Lantern Demonstration).
RICHARD H. JAFFÉ, Chicago.

End Results of Very Radical Thyroidectomies (Lantern Demonstration). ARTHUR E. HERTZLER, Halstead, Kan.

Nervous System and Internal Secretions.
LEON ASHER, Bern, Switzerland.

Specific Artificial Immunity in Tuberculosis (Lantern Demonstration).
HARRY J. CORPER, MAURICE L. COHN and A. P. DAMEROW, Denver.

Surgical Shock in Peritonitis Due to Bile and to Liver Autolysis (Lantern Demonstration).
HENRY N. HARKINS, Chicago.
Discussion to be opened by LESTER R. DRAGSTEDT and EDMUND ANDREWS, Chicago, and THOMAS G. ORR, Kansas City, Mo.

The Blood Nitrite. EDWARD J. STIEGLITZ, Chicago.
Discussion to be opened by ANTON J. CARLSON, Chicago.

Thursday, May 14—2 p. m.

SYMPOSIUM ON VITAMINS

Historical Aspects of the Vitamins.
E. V. MCCOLLUM, Baltimore.

The Chemistry of Vitamins (Lantern Demonstration).
C. G. KING, Pittsburgh.

Chemistry of Vitamin A (Lantern Demonstration).
H. A. MATTILL, Iowa City.

Chemistry of the Vitamin B Complex (Lantern Demonstration). RICHARD J. BLOCK, New York.

New Forms and Sources of Vitamin D (Lantern Demonstration). CHARLES E. BILLS, Evansville, Ind.

The Pathologic Changes Resulting from Vitamin Deficiency (Lantern Demonstration). S. B. WOLBACH, Boston.

Clinical Manifestations of Vitamin Deficiency (Lantern Demonstration). JOHN B. YOUMANS, Nashville, Tenn.

Physiology of Vitamins. ANTON J. CARLSON, Chicago.

Friday, May 15—2 p. m.

Election of Officers

Shwartzman Phenomena (Lantern Demonstration).
GREGORY SHWARTZMAN, New York.
Discussion to be opened by PAUL KLEMPERER and I. E. GERBER, New York.

The Clinical Diagnosis of Periarteritis Nodosa (Lantern Demonstration).
MILTON B. COHEN, BENJAMIN S. KLINE and ANNA MAY YOUNG, Cleveland.

Identification of the Cancer Cell (Lantern Demonstration).
WILLIAM CARPENTER MACCARTY, Rochester, Minn.

The Effects of Intravenous Injections of Salt Solution in Collapse Due to Mechanical Impounding of Blood in the Splanchnic Region (Lantern Demonstration).
JAMES P. SIMONDS, Chicago.

Studies on the Relation of Micro-Organisms to Allergy: IV. Seasonal Hay Fever and Asthma Due to Molds (Lantern Demonstration). SAMUEL M. FEINBERG, Chicago.

Myocardial Syphilis (Lantern Demonstration).
JACK C. NORRIS, Atlanta, Ga.
Discussion to be opened by CARL V. WELLER, Ann Arbor, Mich., and REGINALD FITZ, Boston.

The Physiologic Effects of Fever Therapy as Related to the Preparation and Various Sedatives Employed.
ANDREW H. DOWDY and FRANK W. HARTMAN, Detroit.
Discussion to be opened by WALTER M. SIMPSON, Dayton, Ohio.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN ASSEMBLY ROOM, SIXTH FLOOR, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—HANS H. F. REESE, Madison, Wis.
Vice Chairman—PERCIVAL BAILEY, Chicago.
Secretary—HENRY R. VIETS, Boston.
Executive Committee—HENRY W. WOLTMAN, Rochester, Minn.; H. DOUGLAS SINGER, Chicago; HANS H. F. REESE, Madison, Wis.

Wednesday, May 13—9 a. m.

Epidermoid Tumors of the Brain (Lantern Demonstration).
J. GRAFTON LOVE, Rochester, Minn.
Discussion to be opened by ERNEST SACHS, St. Louis, and R. GLEN SPURLING, Louisville, Ky.

Encephalography with Ethylene (Lantern Demonstration).
HENRY W. NEWMAN, San Francisco.
Discussion to be opened by JOHN J. KEEGAN, Omaha.

Neoplasms of the Spinal Cord: Report of a Series of Forty-Two Surgical Cases (Lantern Demonstration).
R. GLEN SPURLING and FRANK H. MAYFIELD, Louisville, Ky.
Discussion to be opened by PERCIVAL BAILEY, Chicago, and FRANK R. TEACHENOR, Kansas City, Mo.

Newer Aspects of Ménière's Disease: Diagnosis and Treatment (Lantern Demonstration). WALTER E. DANDY, Baltimore.
Discussion to be opened by FRANK R. TEACHENOR, Kansas City, Mo., and FRANCIS C. GRANT, Philadelphia.

Alcohol Injection in the Treatment of Major Trigeminal Neuralgia (Lantern Demonstration).
FRANCIS C. GRANT, Philadelphia.
Discussion to be opened by WALTER E. DANDY, Baltimore, and J. GRAFTON LOVE, Rochester, Minn.

The Treatment of Encapsulated Brain Abscess: A Method Whereby the Wall Is Brought To or Above the Surface Preliminary to Drainage (Lantern Demonstration).
EDGAR A. KAHN, Ann Arbor, Mich.
Discussion to be opened by R. GLEN SPURLING, Louisville, Ky., and JOSEPH E. J. KING, New York.

Thursday, May 14—9 a. m.

SYMPOSIUM ON THE ACTION POTENTIALS OF THE BRAIN

I. In Normal Persons and in Normal States of Cerebral Activity (Lantern Demonstration).
HALLOWELL DAVIS and PAULINE A. DAVIS, Boston.

II. In Certain Types of Mental Deficiency (Lantern Demonstration).
GEORGE KREEZER, Vineland, N. J.

III. In Epilepsy: (1) Significance for Diagnosis and Localization. (2) Effect of Drugs and of Conditions Which Influence Seizures (Lantern Demonstration).
FREDERIC A. GIBBS, WILLIAM G. LENNOX and ERNA L. GIBBS, Boston.
Discussion to be opened by L. E. TRAVIS, Iowa City.

Fever Therapy in Tabes Dorsalis: The Relief of Gastric Crises and Lightning Pains by the Use of the Kettering Hypertherm.
A. E. BENNETT, Omaha.
Discussion to be opened by FRANKLIN G. EBAUGH, Denver.

A Comparative Study of Artificial Hyperpyrexia and Therapeutic Malaria in the Treatment of Paresis: A Preliminary Report (Lantern Demonstration).
CLARKE H. BARNACLE, FRANKLIN G. EBAUGH and JACK R. EWALT, Denver.
Discussion to be opened by A. E. BENNETT, Omaha.

Friday, May 15—9 a. m.

Election of Officers

Chairman's Address: The History of Scalping and Its Clinical Aspects (Lantern Demonstration).
HANS H. F. REESE, Madison, Wis.

Psychoneurotic Depressions.
CHARLES H. KIMBERLY, Stockbridge, Mass.

A Children's Hospital for Neurologic and Behavior Disorders: Five Years' Experience at the Emma Pendleton Bradley Home (Lantern Demonstration).
CHARLES BRADLEY, East Providence, R. I.
Discussion to be opened by WILLIAM G. LENNOX, Boston.

The Visceral Nervous System and Its Relation to the Endocrines.
HOMER P. RUSH, Portland, Ore.

Unilateral Cerebral Dominance as Related to Mind-Blindness: The Minimal Lesion Capable of Causing Visual Agnosia for Objects.
J. M. NIELSEN, Los Angeles.
Discussion to be opened by JOHN B. DOYLE, Los Angeles, and GEORGE B. HASSIN, Chicago.

Toxic Focal Lesions in the Central Nervous System (Lantern Demonstration).
LOUIS L. TUREEN, SIDNEY I. SCHWAB and JOSEPH J. GITT, St. Louis.
Discussion to be opened by ROY R. GRINKER and GEORGE B. HASSIN, Chicago.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

MEETS IN INSIDE COMMITTEE ROOM, FOURTH FLOOR, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—HARRY R. FOERSTER, Milwaukee.
Vice Chairman—JOHN G. DOWNING, Boston.
Secretary—J. BEDFORD SHELMIRE, Dallas, Texas.
Executive Committee—C. GUY LANE, Boston; JEFFREY C. MICHAEL,* Houston, Texas; HARRY R. FOERSTER, Milwaukee.

Wednesday, May 13—9 a. m.

Chairman's Address: Some Observations on Industrial Dermatology.
HARRY R. FOERSTER, Milwaukee.

Lupus Erythematosus: A Modification of Therapy with Gold Compounds.
HERBERT S. ALDEN and JACK W. JONES, Atlanta, Ga.
Discussion to be opened by JAMES K. HOWLES, New Orleans.

Histopathology of Various Types of Cutaneous Tuberculosis (Lantern Demonstration).
HAMILTON MONTGOMERY, Rochester, Minn.
Discussion to be opened by DUNCAN O. POTH, San Antonio, Texas.

Besnier-Boeck's Disease (Lantern Demonstration).
JAMES W. JORDON and EARL D. OSBORNE, Buffalo.
Discussion to be opened by J. P. GUEQUIERRE, Philadelphia.

Lichen Ruber Moniliformis: Report of a Hitherto Undescribed Variety of a Rare Dermatosis (Lantern Demonstration).
FRED WISE, CHARLES R. REIN and DAVID L. SATENSTEIN, New York.
Discussion to be opened by F. M. JACOB, Pittsburgh.

Aleukemic Reticulosis: An Additional Member of the So-Called Cutaneous Lymphoblastomas (Lantern Demonstration).
JAMES T. WAYSON, Honolulu, H. I., and FRED D. WEIDMAN, Philadelphia.

Cutaneous Lesions Associated with Monocytic Leukemia and Reticulo-Endotheliosis (Lantern Demonstration).
FRANCIS W. LYNCH, St. Paul.
Discussion on papers of DRS. WAYSON and WEIDMAN and DR. LYNCH to be opened by A. B. LOVEMAN, Louisville, Ky.

Thursday, May 14—9 a. m.

The Treatment of Lip Cancer: A Clinical Survey of Four Hundred Cases Treated by Different Methods (Lantern Demonstration).
EUGENE A. HAND and UDO J. WILE, Ann Arbor, Mich.
Discussion to be opened by EVERETT S. LAIN, Oklahoma City.

Some Patch Test Observations Based on Five Years' Experience in More Than Nine Hundred Patients with More Than Ten Thousand Tests (Lantern Demonstration).
ADOLPH ROSTENBERG JR. and MARION B. SULZBERGER, New York.
Discussion to be opened by M. E. OBERMAYER, Chicago.

* Deceased.

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The Relation of Diet to Skin Infection: A Study of the Influence of High and Low Carbohydrate and High Fat Intakes and Starvation on Experimental Pyogenic Skin Infections in Dogs (Lantern Demonstration).
DONALD M. PILLSBURY and THOMAS H. STERNBERG, Philadelphia.
Discussion to be opened by JOHN F. MADDEN, St. Paul.

"Fixed" Drug Eruptions.
E. WILLIAM ABRAMOWITZ, New York, and MAURICE H. NOUN, Des Moines, Iowa.
Discussion to be opened by MARQUE O. NELSON, Tulsa, Okla.

Extracellular Cholesterinosis (Lantern Demonstration).
CARL W. LAYMON, Minneapolis.
Discussion to be opened by C. GUY LANE, Boston.

Streptococcic Dermatoses of the Ears (Lantern Demonstration). JAMES HERBERT MITCHELL, Chicago.
Discussion to be opened by CLINTON W. LANE, St. Louis.

Vitamin C and Pigment (Lantern Demonstration).
THEODORE CORNBLEET, Chicago.
Discussion to be opened by S. W. BECKER, Chicago.

Friday, May 15—9 a. m.

Election of Officers

Resistant Early Syphilis in Two Instances of Conjugal Infection (Lantern Demonstration).
E. W. NETHERTON, Cleveland.
Discussion to be opened by JOHN ERIC DALTON, Indianapolis.

Ulcerative Lesions of the Skin in Lymphogranuloma Inguinale (Lantern Demonstration).
MAX S. WIEN and MINNIE OBOLER PERLSTEIN, Chicago.

Untreated Syphilis in the Male Negro: A Comparative Study of Treated and Untreated Cases (Lantern Demonstration). R. A. VONDERLEHR, Washington, D. C.
Discussion to be opened by CHARLES C. DENNIE, Kansas City, Mo.

A Study of the Rapidity with Which Spirochaeta Pallida Invades the Blood Stream (Lantern Demonstration).
GEORGE W. RAIZISS and MARIE SEVERAC, Philadelphia.
Discussion to be opened by RICHARD L. SUTTON JR., Kansas City, Mo.

Cod Liver Oil Ointments in the Treatment of Indolent Ulcers (Lantern Demonstration).
J. R. DRIVER, GEORGE W. BINKLEY and MAURICE SULLIVAN, Cleveland.
Discussion to be opened by EVERETT C. FOX, Dallas, Texas.

Clinical Evaluation of a New Trichophytin Extract: "Dermatomycol."
J. J. ELLER and K. A. KAZANJIAN, New York.
Discussion to be opened by HARRY P. JACOBSON, Los Angeles.

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

MEETS IN CONGRESS ROOM, HOTEL PRESIDENT

OFFICERS OF SECTION

Chairman—R. R. SAYERS, Washington, D. C.
Vice Chairman—J. LYNN MAHAFFEY, Camden, N. J.
Acting Secretary—IRL C. RIGGIN, Richmond, Va.
Executive Committee—WILSON G. SMILLIE, Boston; ROBERT H. RILEY, Baltimore; R. R. SAYERS, Washington, D. C.

Wednesday, May 13—2 p. m.

INDUSTRIAL MEDICINE

Chairman's Address: Industrial Hygiene Problems in the United States (Lantern Demonstration).
R. R. SAYERS, Washington, D. C.

Papilloma and Carcinoma of the Urinary Bladder in Dye Workers (Lantern Demonstration).
GEORGE H. GEHRMANN, Wilmington, Del.

Anthracosilicosis (Lantern Demonstration).
W. C. DREESSEN and R. R. JONES, Washington, D. C.

Safe Practices in the Industrial Use of Carbon Tetrachloride.
HENRY FIELD SMYTH, Philadelphia.

A New Procedure for the Control of Benzene Poisoning.
H. H. SCHRENK and W. P. YANT, Pittsburgh.

Thursday, May 14—2 p. m.

PREVENTIVE MEDICINE

Poliomyelitis, Present Knowledge and Its Bearing on Control (Lantern Demonstration).
J. P. LEAKE, Washington, D. C.

Immediate Treatment and After-Care of Poliomyelitis Patients (Lantern Demonstration).
THEODORE C. HEMPELMANN, St. Louis.

Rabies and What to Do for the Person Bitten.
V. H. BASSETT, Savannah, Ga.

The Opsonocytophagic, Allergic and Agglutination Reactions in the Diagnosis of Undulant Fever (Lantern Demonstration).
A. E. KELLER, CRIT PHARRIS and W. H. GAUB, Nashville, Tenn.

Significance of an Epidemic of Dengue.
T. H. D. GRIFFITTS and HENRY HANSON, Jacksonville, Fla.

The Evaluation of the Ragweed Hay Fever Resort Areas of North America (Lantern Demonstration).
O. C. DURHAM, Chicago.

Friday, May 15—2 p. m.

PUBLIC HEALTH

Election of Officers

The Physician's Place in the Public Health Program.
W. W. BAUER, Chicago.

What Service Does a Health Department Render to the Practicing Physician? JOSEPH F. BREDECK, St. Louis.

The Functions of a State Health Department (Lantern Demonstration). E. G. BROWN, Topeka, Kan.
Discussion to be opened by WALTER L. BIERRING, Des Moines, Iowa.

Medical Aspects of Accident Control.
I. D. BRISTOL, New York.

Chronic Endemic Dental Fluorosis (Mottled Enamel) (Lantern Demonstration). H. T. DEAN, Washington, D. C.

SECTION ON UROLOGY

MEETS IN INSIDE COMMITTEE ROOM, FOURTH FLOOR, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—JOHN H. MORRISSEY, New York.
Vice Chairman—C. H. DET. SHIVERS, Atlantic City, N. J.
Secretary—WILLIAM P. HERBST JR., Washington, D. C.
Executive Committee—HARRY CULVER, Chicago; STANLEY R. WOODRUFF, Jersey City, N. J.; JOHN H. MORRISSEY, New York.

Wednesday, May 13—2 p. m.

Injection Treatment for Hydrocele.
GEORGE H. EWELL, Madison, Wis.

Transurethral Surgery: Changing Conceptions During the Past Five Years (Lantern Demonstration).
GERSHOM J. THOMPSON, Rochester, Minn.

Water Balance in Surgical Patients (Lantern Demonstration).
WALTER G. MADDOCK, Ann Arbor, Mich.

Present Status of Dietary Regimens in Treatment of Urinary Calculi (Lantern Demonstration).
CHARLES C. HIGGINS, Cleveland.

Present Status of Dietary Regimens in Urinary Infections.
ANSON L. CLARK, Oklahoma City.

The Present Status of Cystometry (Lantern Demonstration).
D. K. ROSE, St. Louis.

Presentation of New Instrument for Electrosurgical Uretero-Intestinal Anastomosis.
FREDERIC E. B. FOLEY, St. Paul.

Thursday, May 14—2 p. m.

Chairman's Address. JOHN H. MORRISSEY, New York.

The Value of Fever Therapy in the Treatment of Gonorrhea.
C. A. OWENS, Omaha.

Ureteropelvic Obstruction of the Noncalculous Type in Hydronephrosis (Lantern Demonstration).
T. D. MOORE, Memphis, Tenn.

Results of Transurethral Prostatic Resection (Lantern Demonstration). N. G. ALCOCK, Iowa City.

Recent Developments in Excretion Urography.
MOSES SWICK, New York.

Intraprostatic Injection: An Experimental Study by Vincent O'Conor and Robert L. Ladd (Lantern Demonstration).
VINCENT J. O'CONOR, Chicago.

Friday, May 15—2 p. m.

Election of Officers

The Endocrines in Sterility. LEOPOLD LICHTWITZ, New York.

The Gynecologic Aspect of Human Sterility.
SAMUEL R. MEAKER, Boston.

Methods of Sperm Analysis, with the Valuation of Therapeutic Procedures (Lantern Demonstration).
Robert S. Hotchkiss, New York.

Inflammatory Occlusion of the Epididymis in Male Sterility (Lantern Demonstration).
Francis R. Hagner, Washington, D. C.

Granuloma Inguinale (Lantern Demonstration).
Jesse Ullman Reaves, Mobile, Ala.

Analysis of Indications for and Results of Cystoscopic Examination (Lantern Demonstration).
M. A. Nicholson, Duluth, Minn.

SECTION ON ORTHOPEDIC SURGERY

MEETS IN ASSEMBLY ROOM, SIXTH FLOOR, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—Arthur T. Legg, Boston.
Vice Chairman—Fremont A. Chandler, Chicago.
Secretary—Robert V. Funsten, University, Va.
Executive Committee—James S. Speed, Memphis, Tenn.; Robert D. Schrock, Omaha; Arthur T. Legg, Boston.

Wednesday, May 13—2 p. m.

Results Obtained by the Subcutaneous Fixation of Fractures of the Neck of the Femur (Lantern Demonstration).
J. Albert Key, St. Louis.
Discussion to be opened by Ellis W. Jones, Los Angeles; Edwin W. Ryerson, Chicago, and Fred Knowles, Fort Dodge, Iowa.

Fractures of the Neck of the Femur in Children (Lantern Demonstration).
Joseph I. Mitchell, Memphis, Tenn.
Discussion to be opened by Frank R. Ober, Boston; Guy W. Leadbetter, Washington, D. C., and Robert G. Packard, Denver.

The Evaluation of the Various Methods of Treatment Advanced for Fractures of the Neck of the Femur.
Paul B. Magnuson, Chicago.
Discussion to be opened by Frederick C. Kidner, Detroit; Clay Ray Murray, New York, and Frank D. Dickson, Kansas City, Mo.

A New Lateral Roentgenogram of the Femoral Neck (Lantern Demonstration).
Albert B. Ferguson, New York.
Discussion to be opened by Fred J. Gaenslen, Milwaukee, and J. S. Speed, Memphis, Tenn.

Chairman's Address (Lantern Demonstration).
Arthur T. Legg, Boston.

Massive Resection and Bone Graft Replacement in Sarcoma of the Long Bones (Motion Picture Demonstration).
Fred H. Albee, New York.
Discussion to be opened by Arthur Steindler, Iowa City, and Henry W. Meyerding, Rochester, Minn.

Thursday, May 14—2 p. m.

The Treatment of Osteomyelitis, with a Report of Five Hundred Cases (Lantern Demonstration).
Marcus H. Hobart, Evanston, Ill.
Discussion to be opened by R. J. Dittrich, Fort Scott, Kan.; Jacob Kulowski, St. Joseph, Mo., and J. E. M. Thomson, Lincoln, Neb.

Osteomyelitis of the Ilium, Acute and Chronic (Lantern Demonstration).
Carl E. Badgley, Ann Arbor, Mich.
Discussion to be opened by Willis C. Campbell, Memphis, Tenn., and W. B. Carrell, Dallas, Texas.

Osteomyelitis of the Spine (Lantern Demonstration).
Guy A. Caldwell, Shreveport, La.
Discussion to be opened by Abraham O. Wilenski, New York, and Alfred R. Shands Jr., Durham, N. C.

Acute Hematogenous Osteomyelitis: An Analysis of Seventy-Five Cases (Lantern Demonstration).
Robert C. Robertson, Chattanooga, Tenn.
Discussion to be opened by Robert C. Lonergan, Evanston, Ill., and Herbert A. Durham, Shreveport, La.

Growth Changes in Bone as a Result of Osteomyelitis in Children (Lantern Demonstration).
John C. Wilson, Los Angeles.
Discussion to be opened by D. B. Phemister, Chicago, and J. D. Bisgard, Omaha.

Late Infection Following the Use of Wire and Pins in Bone.
Sylvan L. Haas, San Francisco.
Discussion to be opened by Le Roy C. Abbott, San Francisco, and Roger Anderson, Seattle.

Friday, May 15—2 p. m.

Election of Officers

Tuberculosis of the Hip in Children (Lantern Demonstration).
Joseph S. Barr, Boston.
Discussion to be opened by Arthur Steindler, Iowa City.

The Massive Bone Graft (Lantern Demonstration).
Melvin S. Henderson, Rochester, Minn.
Discussion to be opened by Oscar L. Miller, Charlotte, N. C.; Herman C. Schumm, Milwaukee, and Fremont A. Chandler, Chicago.

The Operative versus the Manipulative Treatment of Slipped Femoral Epiphysis, with a Description of a Curative Operation (Lantern Demonstration).
Samuel Kleinberg and Joseph Buchman, New York.
Discussion to be opened by Armitage Whitman, New York; Charles W. Peabody, Detroit, and W. Eugene Wolcott, Des Moines, Iowa.

The Physiologic Effects of the Correction of Faulty Posture (Lantern Demonstration).
Louis B. Laplace and Jesse T. Nicholson, Philadelphia.
Discussion to be opened by Lloyd T. Brown, Boston, and William Bates and DeForest P. Willard, Philadelphia.

A Conservative Treatment of Habitual Dislocations of the Shoulder (Lantern Demonstration).
Arthur G. Davis, Erie, Pa.
Discussion to be opened by James Warren Sever, Boston; Edson B. Fowler, Evanston, Ill., and David M. Bosworth, New York.

Chronic Sciatica Due to Adhesions About the Nerve Trunk and the Results of Their Removal by Operation.
George Wagoner, Haverford, Pa.
Discussion to be opened by Albert H. Freiberg, Cincinnati; Archibald F. O'Donoghue, Sioux City, Iowa, and Robert M. Schauffler, Kansas City, Mo.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

MEETS IN CONGRESS ROOM, HOTEL PRESIDENT

OFFICERS OF SECTION

Chairman—Ernest H. Gaither, Baltimore.
Vice Chairman—Louis A. Buie, Rochester, Minn.
Secretary—A. H. Aaron, Buffalo.
Executive Committee—Albert F. R. Andresen, Brooklyn; Walter A. Fansler, Minneapolis; Ernest H. Gaither, Baltimore.

Wednesday, May 13—9 a. m.

Multiple Polyposis of Colon, Familial Factor and Malignant Tendency (Lantern Demonstration).
D. C. McKenney, Buffalo.
Discussion to be opened by T. E. Jones, Cleveland, and J. J. Corbett, Detroit.

Disseminated Polyposis of the Colon (Lantern Demonstration).
Charles W. Mayo and E. G. Wakefield, Rochester, Minn.
Discussion to be opened by Frank H. Lahey, Boston, and Walter A. Fansler, Minneapolis.

Clinical Significance of Indicanuria (Lantern Demonstration).
H. W. Soper, St. Louis.
Discussion to be opened by A. L. Levin, New Orleans.

The Relation of Gastro-Enterology to General Medicine.
Nelson G. Russell, Buffalo.
Discussion to be opened by George B. Eusterman, Rochester, Minn.

Alcohol and Cirrhosis of the Liver: Clinical and Pathologic Considerations (Lantern Demonstration).
Russell S. Boles and Jefferson H. Clark, Philadelphia.
Discussion to be opened by Harry L. Bockus and Leonard G. Rowntree, Philadelphia.

The Relationship of the Serum Phosphatase Value in the Blood in the Differential Diagnosis of Obstructive and Hepatocellular Jaundice (Lantern Demonstration).
David R. Meranze and Maurice M. Rothman, Philadelphia.
Discussion to be opened by Leonard G. Rowntree, Philadelphia, and J. Russell Twiss, New York.

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Serum Proteins in Hepatic Diseases (Lantern Demonstration). HARRY L. BOCKUS and H. J. TUMEN, Philadelphia. Discussion to be opened by A. M. SNELL, Rochester, Minn.

Thursday, May 14—9 a. m.

Chairman's Address: Recent Advances in Gastro-Enterology. ERNEST H. GAITHER, Baltimore.

Chronic Gastritis (Lantern Demonstration). RUDOLF SCHINDLER, MARIE ORTMAYER and JOHN F. RENSHAW, Chicago. Discussion to be opened by WILLIAM C. MACCARTY, Rochester, Minn.; CHESTER M. JONES, Boston, and LEON BLOCH, Chicago.

The Leukopenic Index as a Diagnostic Method in the Study of Food Allergy (Lantern Demonstration). WARREN T. VAUGHAN, Richmond, Va. Discussion to be opened by W. W. DUKE, Kansas City, Mo.; L. P. GAY, St. Louis, and HERBERT J. RINKEL, Kansas City, Mo.

The Etiology of Pruritus Ani: Clinical and Histologic Manifestations in Forty-Three Cases (Lantern Demonstration). C. C. TUCKER and C. A. HELLWIG, Wichita, Kan. Discussion to be opened by HARRY E. BACON, Philadelphia.

The Surgical Treatment of Pruritus Ani (Lantern Demonstration). MARION C. PAUTT, Atlanta, Ga. Discussion to be opened by HARVEY B. STONE, Baltimore.

The Clinical Significance of Negative Roentgen Examinations in Patients with Chronic Dyspepsia (Lantern Demonstration). GEORGE B. EUSTERMAN, Rochester, Minn. Discussion to be opened by EDWARD H. SKINNER, Kansas City, Mo., and NELSON G. RUSSELL, Buffalo.

Friday, May 15—9 a. m.

Election of Officers

The Importance of Routine Examination of the Colon (Lantern Demonstration). LOUIS J. HIRSCHMAN, Detroit. Discussion to be opened by W. H. KIGER, Los Angeles, and D. C. MCKENNEY, Buffalo.

Diaphragmatic Hernia: Symptomatology, Diagnosis and Treatment (Lantern Demonstration). SAMUEL MORRIN, Providence, R. I. Discussion to be opened by P. E. TRUESDALE, Fall River, Mass., and I. R. JANKELSON, Boston.

A Review of the Gastric Ulcer Problem (Lantern Demonstration). SARA M. JORDAN, Boston. Discussion to be opened by SIDNEY A. PORTIS, Chicago, and RUSSELL S. BOLES, Philadelphia.

Treatment of Intractable Peptic Ulcer by Intramuscular Injections of Metallic Bismuth (Lantern Demonstration). FRANK D. GORHAM, St. Louis. Discussion to be opened by A. F. R. ANDRESEN, Brooklyn.

Comparative Value of Dietetic, Surgical and Parenteral Treatment in Peptic Ulcer (Lantern Demonstration). DAVID J. SANDWEISS, Detroit. Discussion to be opened by SARA M. JORDAN, Boston, and GEORGE B. EUSTERMAN, Rochester, Minn.

Carcinoma of the Rectum: Factors Affecting Its Cure. G. V. BRINDLEY, Temple, Texas. Discussion to be opened by CURTICE ROSSER, Dallas, Texas, and FRED W. RANKIN, Lexington, Ky.

Secondary Resections in Recurring Carcinoma of the Colon (Lantern Demonstration). J. W. THOMPSON, St. Louis. Discussion to be opened by C. J. HUNT, Kansas City, Mo., and C. F. DIXON, Rochester, Minn.

SECTION ON RADIOLOGY

MEETS IN INSIDE COMMITTEE ROOM, FIFTH FLOOR, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—EDWARD L. JENKINSON, Chicago.

Vice Chairman—ROSS GOLDEN, New York.

Secretary—JOHN T. MURPHY, Toledo, Ohio.

Executive Committee—A. U. DESJARDINS, Rochester, Minn.; JOHN W. PIERSON, Baltimore; EDWARD L. JENKINSON, Chicago.

Wednesday, May 13—9 a. m.

Chairman's Address: Cholecystography (Lantern Demonstration). EDWARD L. JENKINSON, Chicago.

Ulcer Crater Visualized by Pressure (Lantern Demonstration). HOLLIS E. POTTER, Chicago.

Cancer of the Duodenum: A Clinical and Radiologic Study of Sixteen Cases (Lantern Demonstration). WILLIAM J. HOFFMAN and GEORGE T. PACK, New York.

Some Observations on the Physiology and Pathology of the Small Intestine (Lantern Demonstration). E. P. PENDERGRASS, Philadelphia.

Comparison of Methods of Roentgen Examinations of the Colon (Lantern Demonstration). JAMES T. CASE, Chicago.

Roentgenkymography: Its Clinical and Physiologic Value in Diseases of the Heart and Chest (Lantern Demonstration). SHERWOOD MOORE and WENDELL G. SCOTT, St. Louis.

Thursday, May 14—9 a. m.

Anomalies and Fractures of the Vertebral Articular Processes (Lantern Demonstration). WILBUR BAILEY, Los Angeles.

Bony Anomalies in Wrist and Foot (Lantern Demonstration). W. WARNER WATKINS, Phoenix, Ariz.

Classification of Lymph Node Enlargements (Lantern Demonstration). PLINN F. MORSE, Detroit.

The Character and Significance of the Blood Picture in the Lymphadenopathies (Lantern Demonstration). B. K. WISEMAN, Columbus, Ohio.

The Roentgen Treatment of the So-Called Malignant Lymphomas. F. W. O'BRIEN, Boston.

Leukemia of the Stomach Producing Hypertrophy of the Gastric Mucosa (Lantern Demonstration). LEO G. RIGLER, Minneapolis.

Friday, May 15—9 a. m.

Election of Officers

Radiation Therapy of the Lip (Lantern Demonstration). IRA I. KAPLAN, New York.

Roentgen Rays as an Aid in the Treatment of Gas Gangrene (Lantern Demonstration). JAMES F. KELLY, Omaha.

Roentgen Therapy of Some Acute, Subacute and Chronic, More or Less Localized Infections (Lantern Demonstration). FRED M. HODGES and R. A. BERGER, Richmond, Va.

Cystic Disease of the Lung (Lantern Demonstration). J. CASH KING and LEO C. HARRIS JR., Memphis, Tenn.

Needle (Aspiration) Biopsy of Bone Lesions (Lantern Demonstration). ROBERT P. BALL, Chattanooga, Tenn.

Giant Cell Bone Tumor: Further Observations on the Response to Surgical and Radiation Therapy (Lantern Demonstration). CARLETON B. PEIRCE and ISADORE LAMPE, Ann Arbor, Mich.

SECTION ON MISCELLANEOUS TOPICS

MEETS IN INSIDE COMMITTEE ROOM, FIFTH FLOOR, MUNICIPAL AUDITORIUM

Session on Tuberculosis

OFFICERS OF SESSION

Chairman—JAMES ALEXANDER MILLER, New York.

Secretary—CHARLES H. COCKE, Asheville, N. C.

Wednesday, May 13—2 p. m.

Chairman's Address: Some Modern Concepts of Tuberculosis. JAMES ALEXANDER MILLER, New York.

Pathogenesis of Tuberculosis (Lantern Demonstration). MAX PINNER, Oneonta, N. Y.

Case Finding Methods for the Diagnosis of Tuberculosis (Lantern Demonstration). J. BURNS AMBERSON JR., New York.

Sanatorium Care of the Tuberculous. L. S. PETERS, Albuquerque, N. M.

Compression Therapy Uses and Limitations (Lantern Demonstration). J. J. SINGER, St. Louis.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will occupy the balcony around the exhibition floor of the Kansas City Municipal Auditorium. The same general arrangement of booths and decorations will be carried out as in former years. In addition to the groups of exhibits sponsored by the fifteen sections of the Scientific Assembly, there will be motion picture programs put on by the Sections on Ophthalmology and Orthopedic Surgery, a group of exhibits on traffic accidents and two special exhibits subsidized by the Board of Trustees.

Admission to the Scientific Exhibit will be limited to individuals wearing Fellowship or other badges of the convention and to guests to whom special cards of admission have been issued. The public will not be admitted to the Scientific Exhibit.

Following are the section representatives:

Irving S. Wright, New York, Section on Practice of Medicine.

R. S. Dinsmore Jr., Cleveland, Section on Surgery, General and Abdominal.

H. Close Hesseltine, Chicago, Section on Obstetrics, Gynecology and Abdominal Surgery.

Georgiana Dvorak-Theobald, Oak Park, Ill., Section on Ophthalmology.

J. L. Myers, Kansas City, Mo., Section on Laryngology, Otology and Rhinology.

F. Thomas Mitchell, Memphis, Tenn., Section on Pediatrics.

Ralph H. Major, Kansas City, Mo., Section on Pharmacology and Therapeutics.

J. P. Simonds, Chicago, Section on Pathology and Physiology.

Peter Bassoe, Chicago, Section on Nervous and Mental Diseases.

C. W. Finnerud, Chicago, Section on Dermatology and Syphilology.

Paul A. Davis, Akron, Ohio, Section on Preventive and Industrial Medicine and Public Health.

R. S. Ferguson, New York, Section on Urology.

R. L. Diveley, Kansas City, Mo., Section on Orthopedic Surgery.

J. A. Bargen, Rochester, Minn., Section on Gastro-Enterology and Proctology.

S. W. Donaldson, Ann Arbor, Mich., Section on Radiology.

Special Exhibit on Diabetes

The exhibit on diabetes will be carried out again this year along somewhat the same lines as last year. The committee in charge of the exhibit is composed of E. P. Joslin, chairman, Boston; Charles H. Best, Toronto; Louis I. Dublin, New York; Ralph H. Major, Kansas City, Mo.; Howard F. Root, Boston; Bertnard Smith, Los Angeles, and Russell M. Wilder, Rochester, Minn.

The exhibit will include all phases of the subject under the following headings: laboratory, statistics, pathology, physiology, surgery, diet, diabetic coma, insulin and summer camps for children, state and city diabetic programs.

In addition to continuous demonstrations on the foregoing subjects, there will be a special room set aside for short lectures and conferences of small groups of individuals. An outstanding corps of demonstrators will be on hand continuously throughout the week.

Special Exhibit on Fractures

The exhibit on fractures is continued again after a lapse of several years. The special exhibit committee appointed by the Committee on Scientific Exhibit of the Board of Trustees for the Kansas City session is composed of Frank D. Dickson, Kansas City, Mo., Walter Estell Lee, Philadelphia, and Kellogg Speed, chairman, Chicago, assisted by an advisory committee as follows:

Isidore Cohn, New Orleans.
H. Earle Conwell, Fairfield, Ala.
Frederic J. Cotton, Boston.
William Darrach, New York.
Richard B. Dillehunt, Portland, Ore.
Eldridge L. Eliason, Philadelphia.
Leo Eloesser, San Francisco.
George W. Hawley, Bridgeport, Conn.
Melvin S. Henderson, Rochester, Minn.
James M. Hitzrot, New York.
William L. Keller, Washington, D. C.
Roy D. McClure, Detroit.
Frank R. Ober, Boston.
Dallas B. Phemister, Chicago.
J. Spencer Speed, Memphis Tenn.

The exhibit this year will be composed of the following subjects:

1. Making and Application of Plaster of Paris.
2. Emergency Treatment for Transportation of Fractures of the Lower Extremities.
3. Compression Fractures of the Spine.
4. Fractures of the Radius—Lower End.
5. Fractures of the Metacarpals and Phalanges.

Demonstrations will be given continuously throughout the week. A special folder has been prepared for distribution in connection with the exhibit.

The following physicians will take part in the demonstrations:

Bertram S. Adams, Hibbing, Minn.
R. L. Anderson, Richmond, Va.
A. E. Bence, Wichita, Kan.
Guy A. Caldwell, Shreveport, La.
James J. Callahan, Chicago.
W. B. Carrell, Dallas, Texas.
F. Walter Carruthers, Little Rock, Ark.
Freemont A. Chandler, Chicago.
Dwight F. Clark, Evanston, Ill.
E. B. Cudney, Pontiac, Mich.
Wallace S. Duncan, Cleveland.
John Dunlop, Pasadena, Calif.
Donald C. Durman, Saginaw, Mich.
James R. Elliott, Kansas City, Mo.
C. B. Francisco, Kansas City, Mo.
Alfred E. Gallant, Los Angeles.
J. A. Green, Rockford, Ill.
Vernon L. Hart, Minneapolis.
H. Lewis Hess, Kansas City, Mo.
Paul N. Jepson, Philadelphia.
Fred A. Jostes, St. Louis.
Albert Key, St. Louis.
J. M. King, Pittsburgh.
Marion L. Kline[illegible]er, St. Louis.
Philip H. Kreuscher, Chicago.
James W. Martin, Omaha.
Duncan C. McKeever, Kansas City, Mo.
Thomas E. Meany, Chicago.
Frank G. Murphy, Chicago.
W. B. Owen, Louisville, Ky.
W. J. Potts, Oak Park, Ill.
Warren R. Rainey, St. Louis.
Wells C. Reid, Goodrich, Mich.
Dean L. Rider, Riverside, Ill.
G. R. Rountree, Oklahoma City.
Robert D. Schrock, Omaha.
G. D. Schott, Sullivan, Ind.
Lemuel D. Smith, Milwaukee.
James E. M. Thomson, Lincoln, Neb.
Augustus Thorndike Jr., Boston.
Horace E. Turner, Chicago.
D. R. Ulmer, Terre Haute, Ind.
Charles S. Venable, San Antonio.
Jay D. Dyn, Grand Rapids, Mich.
J. R. Watkins, Aberdeen, Wash.
George A. Williamson, St. Paul.
W. Eugene Wolcott, Des Moines, Iowa.

SECTION EXHIBITS

Section on Practice of Medicine

Dwight L. Wilbur and Albert M. Snell, Mayo Foundation for Medical Education and Research, Rochester, Minn.: *Deficiency states associated with gastro-intestinal diseases.* Exhibit of charts and transparencies showing clinical data, histories and photographs of cases illustrating the importance of abnormalities of the gastro-intestinal tract in production of deficiency and metabolic states.

A. E. Bennett, C. A. Owens, Paul Person and Bruce Austin, University of Nebraska College of Medicine and Lutheran Hospital, Omaha: *Artificial fever therapy by means of Kettering hypertherm.* Exhibit of charts outlining indication and contraindication of artificial fever therapy; various diseases under experimental study; management of syphilis by combined fever and chemotherapy compared with malarial therapy; results of gonorrheal infections, arthritis and miscellaneous disorders. Fevergraphs illustrating temperature elevation used in treatment; thermometric gradient fever studies of various tissues of the body; case studies showing results obtained in various diseases; thermal death time studies in meningococci.

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WILLIAM A. GROAT and STELLA M. ZIMMER, Syracuse University, Syracuse, N. Y.: *Basophilic leukemia.* Exhibit of photomicrographs, natural color photomicrographs and statistical charts and graphs on studies of the blood and of bone marrow obtained by biopsy and autopsy from a case of acute myeloid leukemia with extreme basophilia (acute basophilic leukemia); also demonstrations of studies of so-called chronic basophilic leukemia and of the basophilic myelocytes, hemohistioblasts of Ferrata and of Di Guglielmo found in chronic myeloid leukemias generally.

J. DEWEY BISGARD and JOHN C. SHARPE, University of Nebraska College of Medicine, Omaha: *Studies in hematology.* Exhibit of complete cytologic studies of the blood of (1) normal rabbits used as controls, fed with thyroid and administered liver by muscle, mouth and vein; (2) totally thyroidectomized adult rabbits with anemia of myxedema, after thyroid feeding, and administered liver by muscle and vein; (3) totally thyroidectomized (cretins); including in all groups reticulocyte responses and hematocrit readings; (4) illustrations of Wintrob hematocrit tube and a chart for rapid and simple computation of results.

N. S. DAVIS III, Department of Pathology, Northwestern University Medical School, Chicago: *The incidence of arteriosclerosis in a large number of necropsies.* Exhibit of charts illustrating the gross and age incidence of atherosclerosis of the aorta, coronary arteries, arteriosclerotic heart disease, coronary thrombosis, atherosclerotic and arteriosclerotic changes in the kidneys, cerebral hemorrhage and thrombosis in a large number of necropsies, and the importance of arterial disease or its results as a primary or contributory cause of death.

JOSEPH FELSEN, The Bronx Hospital, New York: *Bacillary dysentery, distal ileitis, chronic ulcerative colitis and nonspecific intestinal granuloma. Their common pathogenesis.* Exhibit of a clinical, epidemiologic, bacteriologic, serologic and pathologic study, tracing the transition stages from acute bacillary dysentery to chronic distal ileitis, chronic ulcerative colitis and nonspecific granuloma. Typical and atypical forms of acute bacillary dysentery are described as well as the results of follow-up studies with special reference to the development of late lesions. One major epidemic (Flexner type of dysentery) and several minor outbreaks (Flexner and Sonne-Duval types of dysentery) are included in this study together with practical application of this work in diagnosis and treatment.

W. F. HAMILTON, R. A. WOODBURY and H. T. HARPER, University of Georgia School of Medicine, Augusta: *Optical recording of human blood pressure.* Exhibit of a manometer with complete set of auxiliary devices for showing how it works; also charts showing human and comparative blood pressure tracings.

ALVAN L. BARACH, Presbyterian Hospital, New York: *The role of helium and oxygen in various types of dyspnea.* Exhibit of charts and motion pictures showing the pathophysiology of pulmonary ventilation in severe continuous asthma, ephysema, pulmonary fibrosis, passive pulmonary congestion in heart failure; modification or relief obtained by inhalation of gas mixtures rich in helium or in oxygen; reduction of pathologically elevated intrapleural negative pressures with prevention or alleviation of edema in the lungs.

O. H. ROBERTSON and W. D. SUTLIFF, Department of Medicine, University of Chicago, Chicago: *The lesion of lobar pneumonia; a clinical and experimental study.* Exhibit is divided as follows: 1. Early diagnosis shown by roentgenographic evidences and charts of physical signs in lobar pneumonia less than twenty-four hours after onset. 2. Evolution of consolidation shown by roentgenographic observations during the course of the disease in human beings. 3. Gross and microscopic lesions illustrating method of production of experimental lobar pneumonia in dogs. 4. Factors in recovery from lobar pneumonia in men and dogs. Schematic relationship of serum antibodies to the course of the disease. Photomicrographs illustrating the activity of polymorphonuclear phagocytes and macrophages in the clearing local lesions.

WILLIAM W. DUKE, Kansas City, Mo.: *Thermophilia and actinophilia.* Exhibit of motion pictures and photographs demonstrating abnormal reactions to the effect of heat and effort to light, together with etiologic and pathologic bases for a large proportion of cases of this description.

RUSSELL L. HADEN, Cleveland Clinic, Cleveland: *Mechanism of anemia.* Exhibit of charts illustrating blood formation, circulation and destruction in all types of anemia; and natural color photomicrographs illustrating all variations of the red blood cells and all types of anemia.

GEORGE L. WALDBOTT, Detroit: *Allergic shock.* Exhibit demonstrating its mechanism; factors determining its manifestations and clinical course; tabulation of clinical records of shock induced by means other than injection; photomicrographs of autopsy appearances of shock following injections, ingestion of food, inhalation of air-borne substances; differential diagnosis; laboratory studies during shock; prevention and treatment.

HENRY H. TURNER, University of Oklahoma School of Medicine, Oklahoma City: *Clinical and experimental endocrinology.* Exhibit of photographs illustrating the various accepted types of endocrinopathies and results of treatment with some of the newer pituitary fractions; the effects of anterior pituitary growth hormone on pituitary dwarfism; the effects of the anterior pituitary sex hormones on genital aplasia associated with adiposogenital syndrome; the effects of the anterior pituitary-like principles on the descent of testes in patients with cryptorchism; the effect of partial adrenal resection denervation and splanchnic section on patients with the pituitario-adrenogenital syndromes, or so-called pituitary basophilism of Cushing; the effect of the anterior pituitary adrenotropic factor on a patient with Addison's disease; numerous other clinical endocrinopathies.

EDWARD F. HARTUNG, JOHN CURRENCE, JOHN STUMP, JOHN STAIGE DAVIS, OTTO STEINBROCKER and JOSEPH KOVACS, Arthritis Clinic, New York Post Graduate Medical School and Hospital, Columbia University, New York: *Chronic arthritis.* Exhibit dealing with research on the blood in arthritis, especially the filament-nonfilament count, agglutinins and precipitins, plasm cholesterol, serum calcium, albumin-globulin ratio; gastrointestinal factors in arthritis, especially teeth, gastric acidity, gallbladder and colon, postural corrections, especially of visceroptosis; the prevention of deformities; physical therapeutic measures.

R. FRANKLIN CARTER, CARL H. GREENE, J. RUSSELL TWISS, New York Post Graduate Medical School and Hospital, Columbia University, New York: *Types of gallbladder and liver disease and of associated jaundice.* Exhibit of charts, models and drawings demonstrating distinct types of gallbladder disease together with records of cases from the clinic; models and drawings of conditions with associated jaundice with case records from the clinic; motion pictures of normal and pathologic physiology of the gallbladder.

ROBERT M. STECHER, Department of Medicine, Western Reserve University Medical School and City Hospital, Cleveland: *Arthritis of the hand.* Exhibit of photographs and roentgenograms of the hand demonstrating different types of arthritis and some other diseases which at times may be confused with arthritis. The characteristic appearances as well as atypical changes due to these diseases are shown, with special emphasis on the time element in these changes.

Section on Surgery, General and Abdominal

H. S. PLUMMER, W. M. BOOTHBY, S. F. HAINES, J. DEJ. PEMBERTON, E. C. KENDALL, W. A. PLUMMER, W. C. MACCARTY, R. M. TOVELL and A. H. BULBULIAN, Mayo Clinic, Rochester, Minn.: *Diseases and functions of the thyroid gland.* Exhibit shows the important contributions to the present knowledge of diseases of the thyroid gland; presents statistical data in graphic form dealing with the occurrence, frequency and mortality of the disease and the results of medication and surgery; includes color photographs and life masks of patients with myxedema before and after treatment and photographs and motion pictures of patients with exophthalmic goiter, showing the results of medical and surgical treatment; includes samples of material illustrating important steps in the separation of thyroxine from thyroid glands, models illustrating the surgical anatomy of the thyroid gland, motion pictures and drawings illustrating important steps in partial thyroidectomy, with methods of preserving the recurrent laryngeal nerve and parathyroid glands; colored wax casts and photomicrographs of specimens showing the pathology of the thyroid gland, and demonstration, by means of models, photographs

and motion pictures, regional methods of anesthesia for thyroidectomy.

JOHN O. BOWER, J. C. BURNS and H. A. MENGLE, Department of Research Surgery, Temple University School of Medicine and General Hospital, Philadelphia: *Treatment of spreading peritonitis complicating acute perforative appendicitis.* Exhibit of drawings illustrating steps in operative technic and pathologic changes; charts depicting mortality delay, mortality-laxatives; antibody content of convalescent serum, bacteriology of spreading peritonitis and blood mixture in spreading peritonitis; charts showing results of treatment of spreading peritonitis by perfringens antiserum, lyophilized convalescent serum, immediate and delayed operation; photographs and microscopic slides of sections of appendiceal abscesses; display of therapeutic technic and appliances, lyophilized serum and apparatus for administering dextrose solution intravenously; motion pictures showing operative technic in human beings, operative technic in animals; intestine under influence of laxatives, pigeon testing for antibody content of convalescent blood, and venesection and intravenous infusion of dextrose.

CHARLES S. WHITE and J. LLOYD COLLINS, George Washington University School of Medicine, Department of Surgery, Washington, D. C.: *Treatment of empyema.* Exhibit of an illuminated model illustrating the open treatment of empyema after the method described by Connors; charts and motion pictures of resection of ribs, packings and redressings.

J. ROSS VEAL, Louisiana State University School of Medicine, New Orleans: *Arteriography and venography in peripheral vascular diseases.* Exhibit of selected arteriographs and venographs from a study of many cases of peripheral vascular diseases, including senile arteriosclerosis, Buerger's disease, scleroderma, frost bite, congenital arteriovenous anastomosis, aneurysms, axillary vein thrombosis, intermittent claudication, gangrene and varicose veins. Normal arteriographs and venographs of each region are used for comparison with the pathologic states. The technic of arteriography is illustrated by motion pictures.

CHARLES B. HUGGINS, W. J. NOONAN and B. H. BLOCKSOM, Department of Surgery, University of Chicago, Chicago: *Distribution of red and yellow bone marrow and the reticulo-endothelial system in the bone marrow.* Exhibit of cleared gross specimens of animals showing distribution of the reticulo-endothelial system in the bone marrow indicating that a single plan of arrangement for the blood forming system runs through these various species; results of experiments showing how the reticulo-endothelial system is caused to increase and fatty marrow to decrease; charts and photogrophs showing the temperature relationships in bone marrow and the development of the homeothermous state in the albino rat.

W. W. BUCKINGHAM, Kansas City Municipal Tuberculosis Hospital, Kansas City: *Surgical collapse in pulmonary tuberculosis.* Exhibit of preoperative and postoperative roentgenograms of chest showing indications for and results obtained with the following surgical procedures: phrenicotomy (temporary and permanent), pneumolysis (open and closed); plumbage (paraffin packs); thoracoplasty (partial, anteriolateral and complete); combinations of the foregoing procedures.

J. W. CUTLER, Henry Phipps Institute, University of Pennsylvania, Philadelphia: *Pneumolysis—single cannula technic.* Exhibit of instruments, roentgenograms and models of characteristic adhesions complicating artificial pneumothorax therapy in pulmonary tuberculosis; demonstration of instruments for severing adhesions complicating pneumothorax therapy through a single opening into the chest.

R. RUSSELL BEST, FREDERICK HICKEN and HOWARD B. HUNT, Departments of Anatomy, Surgery and Roentgenology, University of Nebraska College of Medicine, Omaha: *Cholangiographic studies of the gallbladder and biliary ducts.* Exhibit showing technic of making cholangiograms at operating table by motion picture and color transparencies; anatomy and histology of common duct; cholangiograms demonstrating spasm of lower end of common duct; cholangiograms taken at the operating table and following operation aiding in the diagnosis of biliary tract lesions; moulage display of organic obstructive lesions of the biliary tract.

EVARTS A. GRAHAM and J. J. SINGER, Barnes Hospital, St. Louis: *Chest tumors and cysts.* Exhibit of roentgenograms, photographs, drawings, pathologic specimens, charts and short case histories showing different types of chest tumors and cysts with diagnostic procedures, types of operations, and so on.

ALFRED A. STRAUSS, Chicago: *Surgical diathermy for carcinoma of the stomach and rectum.* New methods of radical surgical procedures for carcinoma of colon and stomach. Exhibit of wax models showing the newly devised instruments for surgical diathermy of both the stomach and the rectum, with a machine to illustrate its use; wax models of specimens removed; histologic slides and photographs showing the changes that go on in the carcinoma cells and surrounding area from surgical diathermy and the effect on the reticulo-endothelial system which probably accounts for the immunity produced against carcinoma by this method; drawings and photographs of the technic of ileostomy for removal of rectosigmoid carcinoma; the use of the ileostomy in perforating diverticulitis of the sigmoid and ulcerative colitis; wax models of specimens removed.

G. M. DORRANCE, Saint Agnes Hospital, Philadelphia: *Treatment of fractures of the femur in children by means of elevation of the bed approximately 45 degrees.* Exhibit of bed with patient in place; roentgenograms showing after-treatment and follow up.

ARNOLD S. JACKSON, Jackson Clinic, Madison, Wis.: *Diseases of the thyroid gland.* Exhibit of slides illustrating various types of colloid, adenomatous, nontoxic and toxic intrathoracic and exophthalmic goiter, malignant conditions including sarcoma and carcinoma, iodine hyperthyroidism, cretinism, myxedema and photomicrographs of the various pathologic conditions of the thyroid gland; charts illustrating sources of error in basal metabolic rates; distribution of cretinism; study of large number of cases of toxic adenoma as regards cardiac and other observations; gross pathologic specimens; display of instruments used in thyroidectomy; display of "patent medicine" cures for goiter and colored motion picture of technic of thyroidectomy.

CHICAGO MUNICIPAL TUBERCULOSIS SANITARIUM, K. J. HENRICHSEN, Chicago: *Collapse therapy in pulmonary tuberculosis.* Exhibit of roentgenograms of the chest before and after collapse therapy by various methods; pneumothorax, intrapleural pneumolysis, phrenico-exeresis and thoracoplasty; demonstration of surgical technic by motion pictures; charts illustrating relative end results in collapse therapy.

Section on Obstetrics, Gynecology and Abdominal Surgery

RUSSELL VON L. BUXTON and HERMAN A. SHELANSKI, Philadelphia General Hospital, Philadelphia: *Study of the incidence of Trichomonas vaginalis infection in a series of cases, with cultural characteristics of the organism and results of a form of treatment.* Exhibit of charts, dealing with the incidence of Trichomonas vaginalis infection and the incidence in male prostatic secretion; method of culture of the parasite together with a microscopic demonstration of the parasite; results obtained by using silver picrate in kaolin as a therapeutic agent.

WILLIAM B. THOMPSON, The William E. Branch Clinic, Los Angeles: *Cesarean section in Los Angeles County for 1934-1935.* Exhibit of charts dealing with an analysis covering all abdominal deliveries done in 119 hospitals and maternity homes; incidence, the indications of the duration of labor and of rupture of membranes with their relation to mortality and morbidity for both classic and low cervical sections; percentages of deliveries conducted by doctors of medicine, osteopaths, chiropractors, midwives and others; percentage of cesarean sections and the mortality for each group.

WILLIAM F. MENGERT and E. W. SCHELDRUP, University Hospitals, Iowa City: *Mechanics and anatomy of uterine support.* Exhibit of colored motion pictures depicting descent of the uterus in a warm cadaver and during vaginal hysterectomy in the living, as the various supporting structures are cut; charts showing results of similar experiments on cadavers; pelvic cross, coronal and sagittal section of the adult female pelvis with accompanying descriptive charts; similar sections of female fetuses with descriptive charts.

E. C. HAMBLEN and B. CARTER, Department of Obstetrics and Gynecology, Duke University Hospital and School of

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Medicine, Durham, N. C.: *Studies of the endometrium in functional abnormalities of menstruation and its response to endocrine therapy.* Exhibit of water color diagrams presenting concepts of the hormonology of menstruation; photomicrographs illustrating studies of the endometrium in menometrorrhagia, amenorrhea and other functional disorders of menstruation; effects of certain types of endocrine therapy on the endometrium in these conditions.

W. E. CALDWELL, HOWARD C. MOLOY and D. A. D'ESOPO, Sloane Hospital for Women and Department of Obstetrics and Gynecology, Columbia University, and Roentgen-Ray Department, Presbyterian Hospital, New York: *Clinical and roentgenologic recognition of anatomic variations in female pelves and their obstetric significance.* Exhibit of illustrations of pelvic variations and the mechanism of labor, with precision stereoscope to demonstrate the roentgenologic technic advised.

Section on Ophthalmology

BERTHA A. KLIEN, Rush Medical College, Chicago: *Malformations of the human eye.* Exhibit of illustrations of clinical observations and photomicrographs of histologic details of malformations of the human eye, including atypical colobomas of the choroid, the superior conus, aberrant nerve fibers, colobomas and grooves of the optic nerve, orbital appendixes of the sheaths of the optic nerve, aberrant retinal vessels and microphthalmus.

ALBERT L. BROWN, Children's Hospital Research Foundation, Cincinnati: *Experimental uveitis and corneal ulcers.* Exhibit of gross specimens, photographs and photomicrographs showing uveitis produced in rabbits' eyes; corneal ulcers, produced in rabbits' eyes, showing ulcers in untreated animals and in animals treated with parenteral administration of typhoid vaccine with and without aspiration of the anterior chamber to increase intra-ocular antibody concentration.

BRITTAIN F. PAYNE and CONRAD BERENS, Lighthouse Clinic, New York: *Certain phases in the development of the eye in the human embryo.* Exhibit of a series of specimens of human embryos demonstrating the formation of the primary optic vesicle and invagination of the surface octoderm to form the crystalline lens and the development of the secondary optic vesicle; further development of the human eye demonstrated by various intermediate states up to term.

LAURENCE D. REDWAY, Institute of Ophthalmology, Presbyterian Hospital, New York: *Color photography of the human eye and adnexa.* Exhibit of colored transparencies of the external eye and of the fundus oculi, both normal and pathologic.

ARTHUR J. BEDELL, Albany, N. Y.: *Modern photography of the eyes.* Exhibit of photographs of the external diseases of the eye in black and white, colored and infra-red; newest developments in fundus photography, plain and colored plates.

A. E. BRALEY, State University of Iowa, College of Medicine, Iowa City: *Tumors of the eyelids.* Exhibit of transparent colored photographs and stereophotographs of tumors of the eyelid; charts showing frequency, location and differential diagnosis.

PHILLIPS THYGESON and FRANCIS I. PROCTOR, University of Iowa, Iowa City: *Differential diagnosis of trachoma.* Exhibit of colored drawings and photographs illustrating clinical appearance and pathology of the conjunctiva and cornea in the various stages of trachoma; biomicroscopic appearance of trachomatous keratitis; clinical points and laboratory observations useful in the differential diagnosis of trachoma from follicular conjunctivitis, folliculosis, ocular pemphigus and other conjunctival diseases.

EDWIN M. NEHER, Research Department, University of Utah, Salt Lake City: *Origin of spectacle, or brille, in the rattlesnake.* Exhibit describing the embryology of the snake's eye with special reference to the origin of the spectacle; secondary features added to the basic vertebrate eye according to the habits, environment and requirements of the various animals; the brille, or spectacle, is a secondary feature which has been added for the protection of the snake's eye.

EDMUND B. SPAETH, Graduate School of Medicine, University of Pennsylvania, and Wills Eye Hospital, Philadelphia: *Ophthalmic plastic surgery.* Exhibit of photographs illustrating ophthalmic plastic cases before and after correction.

J. E. SMITH, C. E. RICE and HARVEY D. LAMB, Missouri Trachoma Hospital, Rolla, Mo.: *Histology and therapeutics of trachoma.* Exhibit of photomicrographs and microscopic sections dealing with histology of trachoma, especially emphasizing histology of corneal trachoma; histology of tear sacs removed in trachoma patients, the caruncle and the caruncle area, and of the tarsus removed in tarsectomy operations; study of the Von Prowazek-Halberstaedter inclusions of trachoma through photographs and mounts; therapeutic side of trachoma; statements of histories.

ALAN C. WOODS, FRANK B. WALSH and TULLOS O. COSTON, Wilmer Ophthalmological Institute, Johns Hopkins Hospitals and University, Baltimore: *Photography of the eye.* Exhibit of motion pictures of eye operations, colored stereoscopic plates and paintings of external eye and fundus conditions.

MOTION PICTURE PROGRAM

The following motion pictures will be shown on a definite schedule in an area adjacent to the exhibits of the Section on Ophthalmology:

RAMON CASTROVIEJO, New York: Keratoplasty.

RAY K. DAILY, Houston, Texas: Cataract Extraction.

WALTER H. FINK, Minneapolis: The Management of Strabismus.

J. O. MCREYNOLDS, Dallas, Texas: Ophthalmic Operations in Color.

J. E. SMITH, Rolla, Mo.: Trachoma in the Native White Population of the United States.

CHARLES N. SPRATT, Minneapolis: Eye Operations.

CLIFFORD B. WALKER, Los Angeles: Combined Galvanic and Diathermic Treatment of Separated Retina.

Section on Laryngology, Otology and Rhinology

RAPHAEL SCHILLINGER, Brooklyn: *Roentgenologic aspects of mastoiditis.* Exhibit of roentgenograms of the mastoid bone showing anatomic classification; bone specimens, charts and drawing demonstrating importance of this anatomic classification in predicting the course of the disease; roentgenograms of pathologic mastoids with discussion of film interpretation, case histories and operative data; roentgenograms of pathologic mastoids treated by roentgen irradiation, showing the value of the roentgen ray as a therapeutic agent; discussion of "syndrome of favorable action" as an indication for this type of therapy; limitations of this method of treatment; use of roentgen irradiation in the treatment of otitis media as a prophylaxis against mastoiditis.

M. F. ARBUCKLE, St. Louis: *Diagnosis and treatment of diseases of the pulmonary tract and esophagus.* Exhibit demonstrating methods employed in the study of disorders of the pulmonary tract and esophagus for the purpose of diagnosis and application of therapeutic measures with particular reference to the results of physical, radiologic and direct endoscopic examination; examples of disorders of the pulmonary tract, such as lung abscess, bronchiectasis, tumors, congenital lesions, impacted foreign body, both opaque and nonopaque, and esophageal disorders, such as congenital or acquired lesions, malignant disease and impacted foreign body.

L. W. DEAN, ARTHUR W. PROETZ, C. C. BUNCH, LOUIS J. BIRSNER, JAMES B. COSTEN, LOUIS K. GUGGENHEIM, DOROTHY WOLFF and HARRY N. GLICK, Department of Otolaryngology, Washington University School of Medicine, St. Louis. *The pathologic and normal gross and microscopic anatomy; the embryology of the ear, nose, pharynx and larynx.* Exhibit of gross anatomic specimens of the nose, pharynx, larynx and ear cadaver specimens illustrating operations on the ear, nose and throat; gross and microscopic specimens showing normal and pathologic anatomy of the ear; embryologic specimens of the ear, nose and throat; transparent reconstruction of the spiral ganglion.

Section on Pediatrics

C. ULYSSES MOORE, Portland, Ore: *Variation in development found in a rickets survey.* Exhibit showing a study of preschool children and the new-born; clinical, laboratory, roentgenologic and photographic observations; comparison of osseous development of twins.

I. NEWTON KUGELMASS, New York: *Modifying milk for infants' digestion.* Exhibit showing graphic interpretation of

experimental and clinical studies of milk physiology in infant feeding involving the mechanism of milk clotting, the character of curd formation, the index of milk digestibility, the adaptation of milk to infants' digestion, the relation between milk digestion and infant constitution; the biochemical evaluation of milk digestion in vivo and in vitro correlated with normal and artificial feeding.

ARCHIBALD L. HOYNE, Municipal Contagious Disease Hospital, Board of Health and Cook County Hospital, Chicago, and N. S. FERRY, Parke, Davis & Co., Detroit: *Meningococcus antitoxin.* Exhibit of graphs, charts and photographs illustrating research development and clinical application of meningococcus antitoxin starting with the growth of cultures and carrying the exhibit through the preparation of toxin in flasks, tests of toxin, tests on antitoxin and finally giving the therapeutic results on the human being.

PERCIVAL NICHOLSON, WALTER ESTELL LEE and MAX M. STRUMIA, Bryn Mawr Hospital, Bryn Mawr, Pa.: *Mechanical lesions of the appendix as a cause of appendicitis.* Exhibit of charts showing the results of clinical and anatomic examinations of a number of appendicitis cases in children, emphasizing the importance of mechanical obstruction to the lumen as etiologic elements of appendiceal colic.

GEORGE M. LYON, Cabell County Medical Society and Board of Education of Cabell County, Huntington, W. Va.: *Medical participation in a school health program.* Exhibit showing a plan of medical participation in the county wide school program as carried on in Cabell County of West Virginia by the Committee on School Health Problems of the Cabell County Medical Society.

JULIAN D. BOYD and C. L. DRAIN, State University of Iowa, Iowa City: *Nutrition and the teeth.* Exhibit of observations correlating the resistance of tooth decay with the diet habits of the individual; data concerning the oral flora, the mineral metabolism and intrinsic tooth structure as related to resistance or susceptibility of tooth decay; data indicating a close relationship between the resistance of teeth to decay and the general level of health of the individual with diet playing an outstanding part in the maintenance of each.

S. D. KRAMER, Long Island College of Medicine, Brooklyn: Poliomyelitis—epidemiology, pathology and immunity. Comparative study of the value of several methods for active immunization. Exhibit demonstrating by means of charts and graphs the experimental evidence on which the concepts of the disease are based; clinical understanding of the disease is fairly clear, as are some of the epidemiologic concepts, but a number of these concepts are based on extremely sparse data, and an effort is made to add to these data; the enthusiasm recently aroused in active immunization against the disease has made a comparative study of a number of methods for active immunization against the disease imperative; no proved method available for active immunization against poliomyelitis; two proved instances of survival of virus in the nasal secretions thirteen to sixteen days after onset of illness are illustrated.

A. W. SNOKE, Stanford University Hospitals, San Francisco: *Stages, duration and prognosis of glomerular nephritis in childhood.* Exhibit of colored charts showing typical microscopic urinary sediments in the initial, latent, degenerative and terminal stages of glomerular nephritis; charts showing the Addis classification of glomerular nephritis with various possibilities that may occur after the onset of the initial stage; specimens of the Addis tubes for albumin determination and sediment counts.

JESSE R. GERSTLEY, KATHARINE M. HOWELL and DAVID J. COHN, Michael Reese Hospital, Chicago: *The infant stool.* Exhibit of charts, tables, drawings, cultures, microscopic slides under the microscope and models showing effect of different carbohydrates on the infant stool, as well as their effect on metabolism of calcium and phosphorus.

Section on Pharmacology and Therapeutics

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF CHEMISTRY AND SOILS, Washington, D. C.: *Medical products from mold fermentation, fruit juice, selenium cottonseed meal, determination of gossypol for toxicity and biologic values.* Exhibit of bottles of products, specimens, charts, diagrams, flow sheets, and other material.

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE: *Screw worm myiasis of men and animals and the therapeutic use of surgical maggots and their excretion.* Exhibit of colored bromide enlargements and paintings of the various stages of the screw worm fly, cases of screw worm infestation in man and various animals and scenes indicating the methods of treatment or control advocated by the bureau; equipment, photographs and charts illustrating investigational work on the therapeutic use of maggots and their excretions.

L. G. ROWNTREE, J. H. CLARK, ARTHUR STEINBERG and N. H. EINHORN, Philadelphia Institute for Medical Research, Philadelphia, and A. M. HANSON, Fairbault, Minn.: *The rôle of the thymus and pineal glands in growth and development.* Exhibit of charts, photographs, cages with rats, motion pictures and slides showing the rôle of the thymus and pineal glands in growth and development.

A. G. BETTMAN, Department of Surgery, University of Oregon Medical School, Portland, Ore.: The tannic acid-silver nitrate treatment for burns. Exhibit of charts and photographs showing in detail the method of application of the treatment and showing its points of superiority; charts showing laboratory work; photographs depicting plastic reconstruction following burns; other interesting features of plastic surgery.

WILLARD O. THOMPSON, ARTHUR DEAN BEVAN, NORRIS J. HECKEL, PHEBE K. THOMPSON and SAMUEL G. TAYLOR III, Chicago: *Glands of internal secretion.* Exhibit of charts and photographs covering recent original work on the pathologic physiology of the thyroid; the pituitary gland, including the calorigenic activity of the anterior lobe; the nature of Addison's disease and its treatment with an active adrenal cortex extract; anomalies of sex organs, including a consideration of the effect of anterior pituitary-like substance on undescended testicles, and prostatic implants in the anterior chamber of the eye.

ARTHUR C. CLASEN, Kansas City, Mo.: *Blood amylase, lipase and phosphatase determinations in hepatic and pancreatic disturbances.* Exhibit of charts and graphs showing blood amylase and lipase curves in experimental pancreatitis; also amylase, lipase and phosphatase curves in clinical cases of liver diseases.

BAYARD T. HORTON, GEORGE E. BROWN* and GRACE ROTH, Mayo Foundation for Medical Education and Research, Rochester, Minn.: *Hypersensitiveness to cold.* Exhibit of a clinical and experimental study illustrating the various phases of hypersensitiveness to cold; the local and systemic manifestations constitute distinct clinical syndromes: 1. Those in which the manifestations, both local and general suggest those produced by histamine. 2. Those in which paroxysmal hemoglobinuria and vasomotor and agglutinative features are outstanding. Experimental work gives evidence of the chemical nature of these reactions; patients of both groups are amenable to treatment by desensitization to cold.

Section on Pathology and Physiology

G. C. SUPPLEE and S. ANSBACHER, Research Division, The Borden Company, New York: *Pure lactoflavin, an entity of the water soluble vitamin B complex.* Exhibit of specimens of pure crystalline lactoflavin as isolated from milk; box properly equipped with a source of radiation revealing invisible ultraviolet rays only, showing solutions of known and pure lactoflavin exposed alternately to invisible ultraviolet rays and natural light thereby, permitting visual instruction regarding the fluorescent characteristics of lactoflavin and adaptation of the fluorescent principle as a means of quantitative estimation.

THE ARMY MEDICAL MUSEUM, Office of the Surgeon General, United States Army, Washington, D. C.: *Color photography.* Exhibit of three color separation photography of gross and microscopic material to record the natural color in medical subjects; method of preparing prints, lantern slides and transparencies, with actual demonstration of printing the three colors and combining them to make complete prints.

JULIUS S. WEINGART, Des Moines, Iowa: *The technic of the postmortem examination.* Exhibit of charts and motion pictures showing the best technic for postmortem examination, the proper type of instruments to be used, the importance of study of the gross anatomic changes, methods of facilitating restoration of the body, etc.

* Deceased.

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REUBEN L. KAHN, University Hospital, Ann Arbor, Mich.: *Tissue immunity.* Exhibit of charts presenting results of experiments on tissue immunity, illustrating the immunologic rôle of the tissues in the nonimmune state, the period of incubation and the immune state; the rôle of the tissues in active and passive immunity; the relation between tissue immunity, and humoral immunity; immunity in the adult and in the young.

HARRY C. SCHMEISSER and JOSEPH L. SCIANNI, University of Tennessee Pathological Institute, Memphis: *The dignity of the autopsy.* A photographic exhibit in four sections: 1. History of the autopsy from antiquity to the nineteenth century. 2. History of the autopsy from the nineteenth century to date. 3. Autopsy of today. 4. Uses of the autopsy.

ARTHUR F. ABT, CHESTER J. FARMER and ELIZABETH SMITH, Northwestern University Medical School, Chicago: *Metabolism of cevitamic acid of infants and children.* Exhibit of charts showing normal values for reduced cevitamic acid in the blood plasma of infants and children from birth to 13 years of age; correlation of these determinations with capillary skin fragility values, cases of subclinical scurvy and of active scurvy with values for blood plasma, urinary excretion and capillary skin tests; a microchemical method for cevitamic acid determinations; tolerance tests obtained by using this method; apparatus for determining capillary skin fragility; pictures of active and healing scurvy treated with cevitamic acid.

E. SPIEGEL, M. SPIEGEL-ADOLF and M. G. WOHL, Temple University School of Medicine, Philadelphia: *New biophysical methods.* (*a*) Galvanometric determination of hyperalgetic zones: Exhibit showing that in visceral pain the spinal cord segments receiving impulses from diseased internal organs are in a state of hyperexcitation, as is manifested by increased potentials in the corresponding dermatomes; demonstration of measurement of skin potentials and charts illustrating results. (*b*) Measurement of convulsive reactivity: Determination of minimal energy necessary to produce convulsions in animals; effect of various drugs.

ROY R. KRACKE and HORTENSE GARVER, Emory University, Ga.: Blood dyscrasias with particular reference to leukocyte types. Exhibit of colored drawings showing the individual leukocyte types of normal and abnormal blood, with colored plates of groups of pathologic cell types; plates illustrating the blood pictures of the various blood dyscrasias with typical and atypical phases; charts showing descriptions of the various hematologic pictures seen in blood diseases; microscopic demonstration of the rare type of leukemias.

MAX CUTLER and OTTO SAPHIR, Tumor Clinic and Department of Pathology, Michael Reese Hospital, Chicago: *Transferring tumor cells during biopsy on malignant tumors.* Exhibit of photographs, photomicrographs, models, diagrams, lantern slides and motion pictures, illustrating the transference of tumor cells during biopsy, with special reference to carcinoma of the breast; surgical technic; special staining methods to illustrate presence of tumor cells on knife blades; models of breasts showing lines of recurrence and their relationship to this subject.

Section on Nervous and Mental Diseases

GROVES B. SMITH, Beverly Farm, Inc., Godfrey, Ill.: *Mental hygiene in relationship to general practice.* Exhibit of graphs and charts illustrating the problems of general practice so far as neuropsychiatric and mental hygiene aspects are concerned; diagnostic procedures; community responsibilities; importance of economic relationship.

HENRY NEWMAN, Stanford University School of Medicine, San Francisco: *Neurologic diagnostic instruments.* Exhibit of a portable chronaximeter and an instrument for accurate determination of vibratory sensibility; demonstration together with charts showing the circuits employed and details of construction.

ERNEST SACHS and LEONARD T. FURLOW, Washington University School of Medicine, Barnes and St. Louis Children's Hospitals, St. Louis: *Brain and spinal tumors in patients who are now free from symptoms.* Exhibit of pathologic specimens of brain and spinal cord tumors; clinical abstract of each case; pathologic diagnosis with roentgenograms.

FREDERIC A. GIBBS, WILLIAM G. LENNOX, HALLOWELL DAVIS, ERNA L. GIBBS and ALBERT GRASS, Harvard Medical School, Boston: *The electro-encephalograph and its application to the study of epilepsy.* Exhibit showing graphic recording of the electrical potentials of the brain of a human subject by an apparatus similar to the electrocardiograph except that there is higher amplification of the electrical potentials, and records are made by means of an ink-writing pen on a moving paper tape; apparatus will be attached to a subject and continuous records made demonstrating the type of wave to be seen in conditions of normal cerebral activity and as a result of certain physiologic alternations; records of pathologic conditions, especially epileptic seizures, will be shown.

W. JAMES GARDNER, Neurosurgical Division, Cleveland Clinic, Cleveland: *Hereditary brain tumors.* Exhibit of an elaborate family tree of five generations of more than 200 members, demonstrating the transmission of these tumors as true mendelian dominants affecting some thirty-seven members; case reports of the affected members; autopsy material from four verified cases, with microscopic studies of a fifth case; specimen from a patient with bilateral acoustic tumors, consisting of serial sections through the entire head, demonstrating the location of these tumors.

Section on Dermatology and Syphilology

R. A. VONDERLEHR, Division of Venereal Diseases, United States Public Health Service, Washington, D. C.: *Untreated syphilis in the male Negro: A comparative study of treated and untreated cases.* Exhibit records the results of the examination of a group of syphilitic male Negroes who have never received modern treatment for their infections, compared with a group of presumably nonsyphilitic Negroes from the general population in the same area. Original observations included thorough clinical, roentgenologic and laboratory studies to ascertain the extent of the involvement of the various organs and structures of the human body in the late syphilitic process; comparison of groups of Negroes who have received adequate and inadequate treatment; a comparative analysis of the outcome in treated and untreated cases.

HAMILTON MONTGOMERY, Mayo Clinic, Rochester, Minn.: *Histopathology of various types of cutaneous tuberculosis.* Exhibit of colored photomicrographs and schematic drawings illustrating the pathologic differences between various types of cutaneous tuberculosis; charts on the classification of tuberculosis and on the pathology of the conditions.

THEODORE CORNBLEET, Chicago: *Pigment and vitamin C.* Exhibit of charts illustrating that vitamin C in the skin is intimately associated with pigment and does not seem capable of remaining as such in the skin without the presence of pigment; vitamin C absorbs the actinic or pigment producing rays and in this process is used and converted into a new product; it appears that pigment furnishes an anchor to vitamin C, which in turn is an effective shield against photochemical injury.

GEORGE M. MACKEE and ANTHONY C. CIPOLLARO, Skin and Cancer Unit, New York Post Graduate Medical School and Hospital, Columbia University, New York: *Cutaneous tuberculosis and tuberculids.* Exhibit of colored photographs illustrating all clinical varieties of skin tuberculosis and tuberculids.

FRED WISE and CHARLES R. REIN, Skin and Cancer Unit, New York Post Graduate Medical School and Hospital, Columbia University, New York: *Lichen ruber moniliformis.* Exhibit of wax models, illuminated photographs, ordinary photographs, microscopic sections, and the like on lichen ruber moniliformis.

GEORGE M. LEWIS and MARY E. HOPPER, Skin and Cancer Unit, New York Post Graduate Medical School, Columbia University, New York: *Treatment of ringworm of the scalp.* Exhibit of photographs and charts illustrating the various diagnostic and therapeutic measures necessary for the competent management of tinea capitis; cultural determination of the causative fungus; experimental data embodying biologic and immunologic concepts.

SAMUEL AYRES JR., NELSON PAUL ANDERSON and PAUL D. FOSTER, Los Angeles: *Dermatologic versus surgical treatment of carbuncles and furuncles.* Exhibit of charts, diagrams and photographs illustrating a clinical and statistical study of the methods of treating furuncles of the face and carbuncles, as commonly practiced by dermatologists and by surgeons, with especial reference to technic, duration of illness, cosmetic results and mortality.

Section on Preventive and Industrial Medicine and Public Health

FRED E. ANGLE, WILLIAM H. ALGIE and S. J. SCHILLING, Kansas City, Kan.: *Brucellíasis in man (undulant fever) and in animals (Bang's disease).* Exhibit of charts, colored photographs, drawings, pathologic specimens and lantern slides depicting the progress of the disease since its discovery and the progress made in the study of the disease in animals and in man; incidence, distribution, etiology, pathology, diagnostic methods and salient features, treatment and particularly the relationship between the disease in domestic animals and in man.

UNITED STATES PUBLIC HEALTH SERVICE, Washington, D. C.: *Undulant fever.* Exhibit of charts and drawings dealing with the etiology, diagnosis, prevention and treatment of undulant fever.

W. J. MCCONNELL and A. J. LANZA, Metropolitan Life Insurance Company, New York: *Diseases of the lungs caused by inhalation of dusts.* Exhibit showing various harmful dusts used in industry, with roentgenograms of their effects on the lungs, together with a demonstration of methods of determining hazardous dusts in industry.

HENRY FIELD SMYTH and HENRY FIELD SMYTH JR., Laboratory of Hygiene, University of Pennsylvania School of Medicine, Philadelphia. *Safe practices in industrial use of carbon tetrachloride.* Exhibit of data and material gathered on experimental animals exposed to controlled concentrations of carbon tetrachloride vapors; measurements of vapor concentrations in several plants using or manufacturing the material; physical examinations of a number of workers exposed in industry to the material; photomicrographs of significant animal tissue, such as liver, kidney, sciatic nerve and ocular muscle.

LOUIS I. DUBLIN, Metropolitan Life Insurance Company, New York: *Public health aspects of cardiovascular-renal conditions.* Exhibit of charts showing geographic variation in mortality from these conditions; trend of mortality from 1911 to 1935 by age groups; differential mortality by age and sex; mortality of white and colored persons compared; chances of eventually dying from these conditions; incidence of cardiovascular-renal conditions compared with other causes of death; proportion of all deaths caused by cardiovascular-renal conditions; analysis of cardiovascular-renal conditions according to specific organs affected; heart, kidneys, arteries, and other organs.

WILLIAM F. SNOW and WALTER CLARKE, American Social Hygiene Association and New York City Department of Health, New York: *Recent advances in the attack on syphilis and gonococcic infection.* Exhibit of motion pictures, lantern slides, graphs and epidemiologic case studies, data on state and local regulations and programs, requirements for applying the United States Public Health Service recommendations for a venereal disease control program, and material illustrating the physician's part in these programs.

Section on Urology

WALTMAN WALTERS, HUGH CABOT, VIRGIL S. COUNSELLER and JAMES T. PRIESTLEY, Mayo Foundation, Rochester, Minn.: *Successful methods in the surgical treatment of hypospadias and exstrophy of the bladder.* Exhibit of illustrations showing results in the treatment of various types of hypospadias obtained by the operations of Bucknall, Ombredanne and Thiersch; transparencies of patients with exstrophy of the bladder before and after surgical treatment of ureteral transplantation to the colon and cystectomy; motion pictures showing technic of operations for hypospadias and ureteral transplantation.

OSWALD S. LOWSLEY, Department of Urology, the James Buchanan Brady Foundation, New York Hospital, New York: *Kidney operations.* Exhibit of motion pictures, photographs and specimens of kidney operations, such as nephrostomy, nephropexy, heminephrectomy and repair of kidney rupture.

CARCINOMA REGISTRY COMMITTEE OF THE AMERICAN UROLOGICAL ASSOCIATION, Army Medical Museum, Washington, D. C.: *Five year end results in bladder tumors.* Exhibit of tables and charts showing five year end results in cases registered in the Bladder Tumor Registry of the American Urological Association; charts showing correlation of end result with size and grade of tumor and with treatment; photomicrographs illustrating typical tumors of varying grade, with results obtained.

CLINTON K. SMITH and A. LLOYD STOCKWELL, Children's Mercy Hospital, Kansas City, Mo.: *Enuresis.* Exhibit of drawings, diagrams and charts demonstrating normal bladder physiology, diagnostic methods, clinical types, clinical results and general summary of data.

GERSHOM J. THOMPSON, Mayo Clinic, Rochester, Minn.: *Transurethral surgery.* Exhibit of photographs, wax models and charts portraying the technic involved in the operative treatment of patients suffering with vesical neoplasms, vesical calculi, ureteral calculi, vesical neck obstructions caused by benign and malignant prostatic enlargements, congenital deformities, contractures and other conditions.

FREDERICK LIEBERTHAL, Department of Genito-Urinary Surgery, Northwestern University Medical School, Chicago. *Renal and ureteral stone.* Exhibit of water color sketches, roentgenograms and charts selected from several hundred cases of renal and ureteral stone showing the various forms of the latter and the pathologic changes produced by them in the various portions of the kidney and its capsules; emphasis is placed on an appreciation of detailed pathologic data from a clinical standpoint, especially as regards diagnosis and treatment and the relation of these pathologic changes to operative technic.

Section on Orthopedic Surgery

CHARLES E. SEVIER, ATHA THOMAS and GEORGE K. COTTON, University of Colorado School of Medicine, Denver: *Internal derangements of the knee joint.* Exhibit of drawings, roentgenograms and anatomic and pathologic specimens, demonstrating the anatomy and physiology of the knee joint, also etiology and pathology of the more common types of intrinsic derangements; surgical procedures demonstrated by wax models and illustrations.

H. WINNETT ORR, Lincoln, Neb.: *The use of skeletal traction with fixation in plaster-of-paris casts in fractures, compound fractures, joint injuries and leg lengthening operations.* Exhibit of models in plaster and color, and roentgenograms of diagnostic and end results; short case abstracts for some illustrative cases. Demonstration also to emphasize certain points with reference to the prevention and control of infection in the wound treatment. A collection of historical books in the treatment of fractures.

CHARLES MURRAY GRATZ, New York Post Graduate Hospital, Columbia University and City Hospital, New York: *Biomechanics.* Exhibit of photographs showing adhesions in the fascial planes of the body, particularly in relation to the sciatic nerve; photomicrographs of the fibers of the fascial planes and their covering; biomechanical tests of the fibers and the results of extensive research work summarized; also application to fascial transplantation noted; roentgenograms showing the normal distribution of air in the fascial spaces contrasted with roentgenograms showing arthritic and sciatic patients; histologic, biomechanical and clinical data presented to substantiate the belief that adhesions in the fascial spaces interferes with the functional mechanics of the soft tissues, particularly nerves, and may be responsible in certain cases for the production of pain.

ALBERT B. FERGUSON and FREDERICK L. LIEBOLT, New York Orthopedic Hospital, New York: *Lateral roentgenography of the femoral neck.* Exhibit of a new film holder for readily obtaining the lateral view, together with illustrations of the application of the method in orthopedic conditions, such as fracture, epiphysiolysis, coxa plana, arthritis, tuberculosis, arthroplasty and congenital dislocation.

J. E. M. THOMSON and C. FRED FERCIOT, Lincoln, Neb.: *Beaded Kirschner wire in the fixation of bone fragments.* Exhibit of roentgenograms and illustrations portraying the technic of applying beaded Kirschner wires for the reduction and immobilization of certain fractures, such as oblique fractures of long bones and comminuted fractures in which there is a large loose fragment or fragments, and for use in immobilizing fragments after bone shortening operations.

LAURENCE JONES, Menorah Hospital, Kansas City, Mo.: *Lateral roentgenography of the neck of the femur and its clinical application to the treatment of intracapsular fractures of the neck of the femur.* Exhibit dealing with the problems involved in the taking of lateral roentgenograms of the neck of the femur; methods used in the past and difficulties associated with them; a new technic consisting of a different position and a specially

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designed curved cassette with incorporated radiographic filter; clinical examples; the application of the method to bring about improved reduction.

WILLIS C. CAMPBELL, J. S. SPEED, JOSEPH I. MITCHELL and J. F. HAMILTON, Dr. Willis C. Campbell Clinic, Memphis: *Bone tumors.* Exhibit of photographs, of specimens, photomicrographs, roentgenograms and case histories of various cases showing bone tumors.

EARL D. MCBRIDE, McBride Clinic, Oklahoma City: *The conservative operation for bunions.* Exhibit of motion pictures and of plaster and anatomic models demonstrating the technic and results in the conservative operation for bunions.

ROBERT L. PRESTON and MARJORIE B. PATTERSON, New York: *An experimental study of acute staphylococcic suppurative arthritis.* Exhibit of pictures, pathologic specimens and charts illustrating experimental study of various pathologic joint and systemic changes that occur during the course of disease in cases treated by the various methods now in use; comparison of the effectiveness of these methods of treatment in cases of infection by strains of staphylococci of widely varying pathogenicity; criteria for selecting the preferable method of treatment for a given clinical case.

W. EUGENE WOLCOTT, Des Moines, Iowa: *Circulation in the head and neck of the femur.* Exhibit of transparencies made from films of the femoral heads injected with opaque material, demonstrating the circulation entering the head of the femur through the ligamentum teres; the circulation entering the neck and ultimately the head of the femur by way of the posterior superior and inferior visceral capsular arteries, and the anastomosis between these vessels; anatomic specimens demonstrating dissected hip joints.

FRED H. ALBEE, New York: *Recent advances in the treatment of fractures of the hip.* Exhibit of roentgenograms showing end results of cases; diagrams and anatomic models showing the methods used in securing active stabilization of the hip and union in fracture of the neck of the femur, with special emphasis placed on the treatment of those cases in which aseptic necrosis of the head occurs.

Motion Picture Program: Motion pictures dealing with orthopedic surgery will be run on a regular schedule in a space adjoining the exhibits of the section.

Section on Gastro-Enterology and Proctology

HARRY SHAY, JACOB GERSHON-COHEN and SAMUEL S. FELS, Philadelphia: *Experimental studies in gastric physiology in man.* Exhibit of serial roentgenograms showing pyloric function as controlled locally by duodenum and upper small intestine; as modified by gastric secretory response; as a test of Cannon's theory; as controlled by extrinsic factors; its reciprocal behavior with the duodenum; its substitution in the resected stomach; its functional relation to antrum and duodenum cap; its quantitative response to duodenal stimulation; its action with solid and liquid meals; its control by regional intestinal stimulation; also gastric emptying after gastro-enterostomy.

A. C. SCOTT SR., M. W. SHERWOOD and G. V. BRINDLEY, Scott and White Clinic, Temple, Texas: *Cancer of the rectum.* Exhibit of moulages, charts and pictures showing development of cancer from benign to malignant lesions.

RUDOLF SCHINDLER, MARIE ORTMAYER and JOHN F. RENSHAW, University of Chicago, Chicago: *Chronic gastritis.* Exhibit of metal tubes, containing gastroscopic pictures; illuminating box containing lantern slides, roentgenograms and gastrophotographs; charts; different types of flexible gastroscopies and books.

E. L. EGGLESTON and B. C. WHYTE, Battle Creek Sanitarium, Battle Creek, Mich. *Behavior of gastro-intestinal tract under conditions of autonomic imbalance.* Exhibit of photographic reproductions of serial gastro-intestinal films illustrating types of behavior under different degrees of imbalance; charts showing signs, symptoms and physical observations.

DAVID J. SANDWEISS, Destroit: *Comparative value of dietetic and parenteral treatment of peptic ulcer.* Exhibit of charts showing treatment with histodine hydrochloride, synodal, vaccine and distilled water injections; oral administration of silicon dioxide (sand) and diet-alkali regimen; charts showing comparatjve end results.

J. DONALD MILLIGAN, Pelton Clinic of Elgin, Elgin, Ill.: *Diagnosis and management of upper gastro-intestinal problems.* Exhibit of gastric ulcer problems; gastric cancer problems; duodenal ulcer problems; small bowel obstruction problems; also diagnosis and differential diagnosis of each of these diseases with history and physical laboratory and roentgen studies.

C. W. MAYO and E. G. WAKEFIELD, Mayo Clinic, Rochester, Minn.: *Disseminated polyposis of the colon, with a new combined surgical procedure for treatment of selected cases.* Exhibit showing a familial review of a number of cases with polyposis, clinical and pathologic follow up and surgical technic in handling such cases.

HENRY A. RAPSKY, Lenox Hill Hospital, New York: *The clinical significance of pathoglycemia in biliary tract disease.* Exhibit of charts illustrating the carbohydrate tolerance studied in a series of patients with biliary tract disease and post-cholecystectomy sequelae; data illustrating that cholecystectomy in many instances resulted in marked improvement in the carbohydrate tolerance; charts showing various types of blood sugar curves and case reports giving clinical interpretation.

CLAUDE C. TUCKER and C. ALEXANDER HELLWIG, St. Francis Hospital, Wichita, Kan.: *Etiology and histology of pruritus ani.* Exhibit of photographs and photomicrographs showing the different stages of pruritus ani and inflammatory changes in the anal canal found in cases of pruritus ani; demonstration of presence of nerve corpuscles explaining the extreme sensitivity of the anal papillae.

WARREN T. VAUGHAN, Richmond, Va.: *Food allergy.* Exhibit of posters, graphs, drawings and photographs outlining a comprehensive routine for study of food allergy; skin tests, biologic food groups, leukopenic index, food diary, echelon dietary regimen, relative importance and reliability of these, therapeutic program and results.

HORACE W. SOPER, St. Louis: *Special types of therapy in gastro-enterology.* Exhibit of charts, roentgenograms, specimens and instruments dealing with special types of therapy employed in gastro-enterology, including ulcerative colitis, rectal diathermy, amebic dysentery, biliary drainage and cardiospasm.

Section on Radiology

GEORGE LEVENE and HENRY H. LERNER, Robert Dawson Evans Memorial for Clinical Research and Preventive Medicine, Massachusetts Memorial Hospitals, Boston: *Roentgenoscopic appearance of the heart.* Exhibit of moving mechanical models that reproduce the appearance of the heart as seen under the fluoroscope, including normal conditions, sinus arrhythmia, extrasystoles, heart block, auricular fibrillation, thyrotoxicosis, coronary disease, aortic stenosis, aortic insufficiency and tricuspid insufficiency; electrocardiograms of these conditions and technic of fluoroscopic study.

HAROLD G. F. EDWARDS, Shreveport, La.: *Radium and roentgen rays in the treatment of cancer.* Exhibit of transparent tinted photographs of malignant tumors before treatment, photomicrographs of tumor and photographs showing radium in situ and the end results secured by such treatment; when cases have been treated with the roentgen ray, the skin reaction is shown.

WENDELL G. SCOTT and SHERWOOD MOORE, Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis: *Clinical and physiologic value of kymography in diseases of the heart and chest.* Exhibit of roentgenograms, charts, photographs of apparatus and short case reports dealing with the clinical and physiologic information gained from roentgenokymograms in diseases of the heart and chest; kymograms in aortic insufficiency, aortic stenosis, hyperthyroidism, aneurysms of ascending arch of the aorta, pleuropericardial adhesions, myxedema and adhesive pericarditis; kymograms of the diaphragm showing the movements in atelectasis, pneumonia, asthma, emphysema, hiccuping, eructation, coughing and with adhesions; kymoscope for demonstrating the movements recorded on the kymograms.

HARRY H. BOWING and ROBERT E. FRICKE, Mayo Clinic, Rochester, Minn.: *The treatment of rectal carcinoma with radium.* Exhibit of drawings and charts showing the location and types of lesions encountered; location and method of maintaining the radium applicators in position for the required treatment time; the age incidence, the location of the lesions, the grade of pathologic change encountered and the results obtained.

David S. Dann, Menorah Hospital Cancer Clinic, Kansas City, Mo.: *A practical guide to therapy in cancer.* Exhibit of graphic charts of the body divided in the sagittal and coronal planes with the treatment of choice, surgery, irradiation or both, for each anatomic location of the tumor, indicated in colors; photographs illustrating the accomplishments of treatments in various types of cancer.

Wilbur Bailey, Department of Radiology, University of Southern California School of Medicine, Los Angeles: *Anomalies and fractures of the vertebral articular processes.* Exhibit of a series of such lesions of the vertebral articular processes showing the anomalous centers of ossification which are occasionally seen opposite the tips of the inferior articular processes of the lumbar vertebrae. Partial fusion or complete lack of fusion of such ossicles may be confused with fracture. Isolated fractures of the articular processes may occur in the same region, but from the history and the roentgen appearance a differential diagnosis can nearly always be made.

J. C. Kenning, O. A. Brines and Harry L. Weitz, City of Detroit Receiving Hospital, Detroit: *Primary carcinoma of the lung.* Exhibit of roentgenograms of cases of primary carcinoma of the lung, with résumé of clinical history and other observations, together with photomicrographs and gross pathology, demonstrating the pathology with particular emphasis on cell type.

E. A. Merritt, Edgar M. McPeak and R. Rhett Rathbone, Warwick Clinic, Garfield and Emergency Hospitals, Washington, D. C.: *The application of the Coutard principles of radiation therapy in malignancy.* Exhibit of colored lantern slides showing the intense blistering skin reactions as well as the primary lesions before and after treatment of typical cases of carcinoma of the breast, stomach, colon, rectum and cervix, bladder and skin, as well as a group of miscellaneous malignant conditions.

J. M. Martin and Charles L. Martin, Baylor University Hospital, Dallas, Texas: *Radiation therapy in carcinoma of the lower lip, mouth, tongue, larynx and pharynx.* Exhibit of enlarged photographs of actual cases of cancer before, during and after treatment accompanied by charts and drawings; models of cancer lesions accompanied by photographs, photomicrographs, drawings and legends; photographs illustrating the various steps in cancer therapy.

H. O. Mahoney and Barry J. Anson, Northwestern University Medical School, Chicago: *Radiographic study of anatomic sections.* Exhibit of a representative selection of roentgenograms and corresponding photographs of anatomic sections, coronal, transverse and sagittal, so arranged and labeled as to show the advantages which radiography provides in the study of anatomy; revealing of anatomic structure not readily shown by usual methods of study; recording of macroscopic differences among organs; course of the fascicles of muscles and the arrangement of the trabeculae of bone; making possible a complete and thorough study of anatomic sections without disturbing the tissue or destroying the sections.

Group Exhibit, University of Kansas School of Medicine

Ralph H. Major, Department of Medicine: *Insulin absorption.* Exhibit of charts showing observations on insulin absorption.

Edward H. Hashinger, Department of Medicine: *Influence of hypophysis on blood platelets.* Exhibit of charts showing influence of hypophysis on blood platelets.

Graham Asher, Department of Medicine: *Simultaneous phonocardiograms and electrocardiograms.* Exhibit of tracings and charts showing simultaneous phonocardiograms and electrocardiograms.

Logan Clendening, Department of Medicine: *History of medicine.* Exhibit of American books important in the history of medicine.

Thomas G. Orr, Department of Surgery: *Breast amputation.* Exhibit of drawings illustrating technic for breast amputation.

Nelse F. Ockerblad and Hjalmar E. Carlson, Department of Surgery: *Effect of morphine on the human ureters.* Exhibit of tracings showing the effect of morphine on the human ureters.

E. C. Padgett, Department of Surgery: *Reconstruction of ears.* Exhibit of photographs, diagrams and wax models showing total reconstruction of ears.

H. C. Tracy, Department of Anatomy: *Anatomic models.* Exhibit of anatomic models of brain stem and heart embryos.

L. A. Calkins, Department of Obstetrics: *Size of placenta.* Exhibit of charts showing size of placenta with causes and effects of variations.

Frank C. Neff, G. V. Herrman and Robert Fredeen, Department of Pediatrics: *Transfusion of infants.* Exhibit of apparatus and charts describing a method of transfusions of infants.

Sam Roberts, Department of Otorhinolaryngology: *The pyriform sinus.* Exhibit showing a new surgical approach to the mediastinum through the pyriform sinus.

O. J. Dixon, Department of Otorhinolaryngology: *Mastoidectomy.* Exhibit of drawings, roentgenograms and photographs showing a new type of mastoidectomy wound closure.

O. O. Stoland and A. M. Ginsberg, Department of Physiology: *Studies of coronary circulation.* Exhibit of charts and graphs describing technic and experimental work on coronary circulation.

F. C. Helwig, Department of Pathology: *The hepatorenal syndrome.* Exhibit of charts and photomicrographs showing clinical and pathologic studies of the hepatorenal syndrome.

Emsley T. Johnson, Department of Pathology: *Liver damage due to drugs.* Exhibit of gross specimens and photomicrographs of experimental work and results of necropsy in liver damage due to drugs.

SYMPOSIUM ON TRAFFIC ACCIDENTS

This group of exhibits is intended to give the physician practical information in the treatment of traffic accidents:

Special Exhibit: *Emergency treatment for transportation of fractures of the lower extremity.* Exhibit presented by Special Exhibit Committee on Fractures.

Harry E. Mock, Northwestern University School of Medicine, and St. Luke's Hospital, Chicago: *Skull fractures.* Exhibit of charts and photographs illustrating prevention, etiology, pathology and management of skull fracture cases, stressing the part automobile accidents are playing in skull fractures and preventive measures which should be adopted during the first twenty-four hours.

Samuel McLanahan, Baltimore: *Automobile door handle injuries.* Exhibit of roentgenograms, photographs and case histories, depicting a number of unusual instances of serious injury caused by the projecting type of door handle currently used on automobiles; a collection of newspaper clippings describing such injuries to man and beast; illustrations of dangerous types of door handles, and of improved types which have been suggested.

Claire L. Straith and William A. Lange, Detroit: *Plastic surgery.* Exhibit of photographs showing technic and results in plastic surgery. Special emphasis is placed on the treatment of crushing facial injuries such as those so often encountered by surgeons in treating victims of motor car accidents; apparatus will be shown which will hold facial bone fragments and reshape crushed faces.

Albert L. Lemoine, Kansas City, Mo.: A motion picture "Safety First."

EDUCATIONAL CLASSIFICATION

Government and National Organizations

The educational exhibits include those exhibits from national and state organizations and government institutions which are put on in the name of the institution rather than the individuals, and which are intended to show progress in the particular activities with which those institutions deal.

These exhibits are not open to medal awards, but a special certificate of merit is presented to the best exhibit in this classification.

American Heart Association, New York: A group of three exhibits on *studies of the revived human hearts,* consisting of motion pictures and charts; *the pathology of rheumatic fever,* consisting of charts and specimens; *the treatment of congestive heart failure,* are shown by lantern slides.

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HEALTH CONSERVATION ASSOCIATION, Kansas City, Mo.: Exhibit of large diagram of the organization showing the unification and coordination of several local volunteer health educational agencies; illustrations of program of the association.

UNITED STATES PHARMACOPEIA: *The Eleventh Revision of the United States Pharmacopeia.* Exhibit of pharmacopeial preparations and chemicals and a demonstration of the use of these in prescription practice.

AMERICAN PHARMACEUTICAL ASSOCIATION, Washington, D. C.: *The National Formulary.* Exhibit of new and valuable products of the Sixth Edition of the National Formulary.

COMMITTEE ON DEAFNESS PREVENTION AND AMELIORATION, American Academy of Ophthalmology and Otolaryngology: *Deafness prevention and amelioration.* Exhibit of instruments, charts, posters and diagrams illustrating methods of detecting and determining amount of hearing loss by modern methods; a working model of acoustically treated testing room to make possible accuracy in diagnosing disturbances of hearing; audiometers and hearing aids, their use in the field of deafness prevention and amelioration; lantern slides and films illustrating educational talks in this field; available literature on subject.

AMERICAN SOCIETY FOR THE HARD OF HEARING, Washington, D. C.: Exhibit of posters, charts, maps and distribution of pamphlets on the needs of the hard of hearing from an educational, vocational and economic standpoint.

AMERICAN SOCIETY FOR THE CONTROL OF CANCER, New York: *Constitution and cancer.* Exhibit of charts and other material showing the constitutional factors in production of cancer in animals; constitutional factors showing the incidence of cancer in different strains; production of cancer by carcinogenic agents in relation to its constitutional condition; subject of transplantation and its physiologic factors.

NATIONAL CONFERENCE ON NOMENCLATURE OF DISEASE, New York: *National Conference on Nomenclature of Disease.* Exhibit of placards explaining the origin and constitution of the National Conference on Nomenclature of Disease; the design of the nosologic classification; a record room set up according to various plans, together with placards showing cost of installation, graphic illustrations of the simplicity of the system and a spot map showing distribution of the Standard Classified Nomenclature of Disease.

MISSOURI STATE COMMITTEE ON MATERNAL WELFARE, St. Joseph, Mo.: *Maternal welfare.* Exhibit of charts, maps and diagrams of maternal and neonatal mortality throughout the United States; a clock or sand glass calling attention to the fact that each time the minute hand circles the clock so many mothers and infants die; specimens of one to nine months fetuses; slips to sign for literature.

NATIONAL TUBERCULOSIS ASSOCIATION, New York: *The tuberculin test.* Exhibit of apparatus used in making the tuberculin test; panels and graphs, showing how test is made; reproductions of reactions; statistical graphs and other material illustrating the significance of the tuberculin test.

AERO MEDICAL ASSOCIATION: *Scientific apparatus used in determining fitness of airplane pilots.* Exhibit of apparatus for testing coordination, mental reflexes, fatigue and other phenomena.

ADVISORY BOARD FOR MEDICAL SPECIALTIES: Exhibit of charts, graphs and literature describing the work of the Advisory Board for Medical Specialties and its member organizations.

AMERICAN ASSOCIATION OF MEDICAL SOCIAL WORKERS, Chicago: Exhibit of charts and reports of studies on some social factors in certain diagnostic groups: function of the social worker in relation to illness; organization of social service departments in hospitals.

NATIONAL BOARD OF MEDICAL EXAMINERS, Philadelphia: Exhibit of charts describing the work and progress of the National Board of Medical Examiners.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, Chicago. *Medical Education.* Exhibit of charts giving information on the various activities of this association, such as accomplishments of students in medical schools, correlation of work in medical schools with work done in art colleges, analysis of entrance credentials and study of applicants for admission to medical schools.

AMERICAN OCCUPATIONAL THERAPY ASSOCIATION, New York: *Occupational therapy.* Exhibit of photographs, diagrams, charts, case abstracts and other means of demonstrating graphically a few of the methods of aiding the recovery of the sick by means of occupations of various kinds.

AMERICAN PHYSIOTHERAPY ASSOCIATION: *Analysis of the exercise treatment of the foot.* Exhibit showing significant points in the kinesiology of the foot; analysis of foot exercises; contraindications for the use of certain foot exercises; demonstration of foot exercises.

NEW YORK STATE INSTITUTE FOR THE STUDY OF MALIGNANT DISEASES, Buffalo: *Cancer—what is being done about it.* Exhibit of colored transparencies showing various types of cancer, accompanied by short histories, description of lesions, pathology, diagnosis, treatment and results; doll exhibit showing the treatment of cancer by surgery, roentgen ray and radium, and a 4.5 Gm. radium bomb (pack) made to scale, a miniature x-ray machine and miniature surgery exhibit; a radon pump demonstrating the pumping process; various forms in which radium and radon are used, gold radon seeds, glass bulbs, needles, plaques, tubes; cards with cancer hints for the physician to apply in caring for his patients; wax models of cancer found in various parts of the body.

American Medical Association

The exhibits from the headquarters group of the American Medical Association will be found in various parts of the hall. These exhibits are not open to awards.

BUREAU OF MEDICAL ECONOMICS: Exhibit of charts showing distribution of physicians, university and college student health service.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS: Exhibit of graphs, maps, charts, pictures and mechanical apparatus dealing with the resurvey of medical education, training of interns and resident physicians, certification of specialists, survey of schools of occupational therapy, physical therapy and laboratory technic, the hospital register, the special survey of tuberculosis hospitals, and other activities of the Council on Medical Education and Hospitals.

COUNCIL ON PHYSICAL THERAPY: Exhibit consists of four sections: 1. Visual demonstration with a plethysmograph showing changes in volume of tissue fluids in fingers after application of heat. 2. Visual demonstration of some fundamental concepts of short wave diathermy. Apparatus constructed by secretary of the Council. 3. Demonstration by means of model bearing on the importance of posture in relation to disease. 4. Charts dealing with the Council's educational program.

BUREAU OF HEALTH AND PUBLIC INSTRUCTION: Exhibit of charts, maps and literature showing the work of the Bureau and the relation of public health to the Social Security Act.

AWARDS

There will be two classes of awards, consisting each of (*a*) a gold medal, (*b*) a silver medal, (*c*) a bronze medal and (*d*) three certificates of merit.

[NOTE.—The special (subsidized) exhibits (diabetes and fractures) and the exhibits of the headquarters of the American Medical Association are not open to awards.]

CLASS I

Awards in class I are made for exhibits of individual investigations, which are judged on basis of originality and excellence of presentation.

CLASS II

Awards in class II are made for exhibits that do not exemplify purely experimental studies, which are judged on basis of the excellence of correlating facts and excellence of presentation.

Medals are awarded only to individuals. A special certificate of merit will be awarded to the best educational exhibit in the Educational Classification (this includes exhibits by national organizations).

The Committee on Awards will be composed of five persons. It will make the decisions on Wednesday, May 13.

The names of the members of the Committee on Awards will not be available until after the decisions have been published.

THE TECHNICAL ★ EXPOSITION ★

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WHAT are the new improvements in products and services needed by the physician in the practice of medicine? What forward strides have been made in research by manufacturers? How do their technical advances help to serve the doctor better?

THIS year the Technical Exhibits at the American Medical Association Convention will aid in answering these questions. They will permit the visiting physician to come into personal contact with the products and representatives of more than 200 leading firms—manufacturers of pharmaceuticals and biologicals, publishers of medical books, makers of instruments, apparatus and electrical equipment, as well as dietetic products, and many other highly specialized articles and services.

ALMOST invariably, one will find well qualified representatives in each booth eager to discuss subjects of mutual interest. At many exhibits will be scientific investigators and skilled technicians who conducted the research on which the exhibit is based.

THE Exposition will be open from 8:30 A. M. to 6:00 P. M. each day, closing Friday at noon. These hours, together with the close proximity of the Technical Exposition to the Scientific Exhibit and all meeting places, will make it unusually convenient for the physician to take full advantage of the stimulating and educational opportunities offered by the exhibits.

WILL C. BRAUN, Superintendent of Exhibits

APPARATUS AND INSTRUMENTS

Short Wave and Elliott Machines

While the A. S. Aloe Company will display a complete line of instruments and equipment for the doctor and hospital, special interest will be centered in demonstration of the Aloe Short Wave Diatherm, the Elliott Treatment Machine and the new Magnuson Counter Rotary Bone Saw. A special discount on rustless steel instruments will be offered during the convention. A new suite of American Walnut furniture will be featured. Booths 20, 21 and 82.

A Rib-Back Blade

The Bard-Parker Company will demonstrate in Booths 32 and 33 the outstanding features of the Rib-Back surgical blade which incorporates new standards of sharpness, rigidity and strength, and eliminates operating interruptions due to glove cutting and blade rejects.

Splint Kit for Doctors' Cars

The Frank S. Betz Company will have on exhibit in Booth 141 a new and complete all steel office group: a complete display of surgical instruments; the latest make and design short wave diathermy and Majestic portable electro surgical unit; physicians' genuine leather bags and an emergency first aid splint kit as approved by Dr. Kellogg Speed for physicians' cars and ambulances.

(Continued on next page)

New Improved A. S. R. Surgeon's Blade

After months of experiment, during which time prominent medical authorities were constantly consulted, this keener, more uniform Surgeon's Blade was developed. It fits all standard surgical handles old and new. A complete line of these blades—nine types in all—will be exhibited in booth 107. Samples for test purposes will be supplied.

A New Kind of Surgical Knife

Proper steel heat-treating and good sharpening processes as achieved in the Beaver knife will be explained by Rudolph Beaver, Inc., Waltham, Mass., in Booth 231. Beaver blades are not wafer blades, but are stronger and thicker blades, and the mechanism is very simple. All the various blade shapes to fit the different stainless steel handles will be shown.

New Clinical Camera

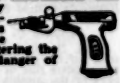
A new clinical camera will be displayed by the Burton Manufacturing Company at Booth 261. The camera is specifically designed for the exacting work of intra-oral cavity photography, and is already widely used. It especially appeals to the practitioner because it is almost foolproof and may be operated by any one without previous photographic experience.

Castle Lights and Sterilizers

A brand new light for physicians' use in examination, treatment and minor operative work will be shown at the Castle Booths 102 and 139. It is radically new in design and should give a cool, color corrected light which almost equals the Zee Spot Lights and Major Lights which Castle makes for surgeries. A big line of Major Lights, and "Full-Automatic" Cast in Bronze Sterilizers will also be displayed in profusion.

Cayo Power Instruments

In booth 218, the Cayo Brothers will demonstrate their bone instruments and explain the technic they use in various operations. Among the features worthy of note will be the Cayo Method of covering the surgical field without danger of contamination.



Passive Vascular Exerciser

The Cincinnati Scientific Company will demonstrate the Perkins (Passive Vascular Exerciser) Unit for stimulating the development of collateral arterial circulation in the extremities of patients with organic arterial diseases. An interesting demonstration will be made at their booth, No. 256, of the effect of the rhythmic alternation of environmental pressure upon an artificial circulation.

Improved Respirators and Oxygen Tents

At Booth 35, Warren E. Collins, Inc., will demonstrate the latest developments in Adult and Infant Drinker Respirators. The Benedict-Roth Metabolism Apparatus has many improvements which include direct vital capacity readings. The new Collins Oxygen Tent with added improvements for simplicity and economy will also be on display. Courteous technicians will give demonstrations and answer all questions.

Sample Surgical Blades

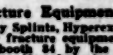
Call at Booth 199 for your free sample of the better Surgeons' detachable blade—Crescent Products of the Crescent Mfg. Co. of Fremont, Ohio. Representatives will tell you why Crescent blades are preferred by Surgeons and how over two thousand hospitals are now saving 20 to 25% by their purchases of Crescent blades.

Sutures for Special Purposes

Davis & Geck, Inc., will show their complete line of sterile surgical sutures with atraumatic needles refined for tonsil, thyroid, obstetrical, circumcision, plastic, eye, ureteral and renal work—also ribbon gut and their new line of dental sutures. See the films from their Library of Surgical Motion Pictures, to which many new subjects have been added. Booth 97.

New Fracture Equipment

Aluminum X-Ray Splints, Hyperextension Pyramid and other fracture equipment will be exhibited in booth 84 by the DePuy Manufacturing Company. Radiographers and Fracture Surgeons will find this exhibit very interesting. Trained men will be in attendance to explain the advantages of new equipment.



Nasal Guard for Atomisers

The DeVilbiss Company, manufacturers of medicinal atomizers, have reserved Booths 113 and 114 for a complete showing of their line of atomizers and vaporizers for both home and professional use. A prominent feature of the DeVilbiss Exhibit will be the recently developed DeVilbiss Nasal Guard, which prevents any excess pressure in the nasal passages during prescribed self-treatment.

Acousticon Hearing Aids

The Dictograph Products Company, Inc., will give practical demonstrations of the new Amplified Air and Bone Conduction Acousticon hearing aids and explain the special service available for patients. Also in Booth 105 will be a display of the Telesmatic, Jr. modern intracommunication system for the professional man's office, consultation room, and any other part of the building desired.

The New Gomco Centrifuge

In Booth 211 will be shown the new Gomco Centrifuge, which incorporates a number of distinctive features. The famous line of Circumcision Clamps will also be shown and any questions pertaining to the technic required will be answered by capable persons in charge.

Improved Respirators

In Booth 210, a new respirator collar arrangement, which makes it possible for one person to put a patient into a respirator without assistance, will be demonstrated by J. H. Emerson. This will be shown in connection with interesting demonstrations of the Emerson Respirator. Representatives skilled in the problems of artificial respiration will be present. Other hospital and research equipment will be displayed.

Will Display Gas Machines

The McKesson Appliance Company invites you to visit their booths, Nos. 216, 217. Here they will have on display the latest advances in anesthesia, metabolism, oxygen therapy and allied equipment.

To Show New Apparatus

In addition to their regular line of Kinetometers and oxygen therapy equipment the Medfrisk Company will display for the first time this year their new Cabinet Model, a marvel of convenience and efficiency. Visitors interested in the latest developments in gas anesthesia or oxygen therapy equipment will do well to call at Booth 265 and obtain a complete demonstration by competent representatives.

Orthopedic Appliances

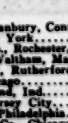
The W. E. Isle Company will display the latest prosthetic and orthopedic appliances in their booth, No. 230. The exhibit will feature the Isle Superior Artificial Limb with Natural Action Sponge Rubber Foot, surgical supports and Adjustable Bradford Frame.

New Pelton Steriliser

In Booth 302 the Pelton & Crane Company will show a complete line of sterilizers, operating lights and fountain cuspidors. A feature of this year's exhibit will be the new Pelton Tri-Plex Steriliser, which includes built-in instrument steriliser, automatic autoclave and modern, handsome cabinet.

Late Model Operating Table

The remarkable performance of the Operay Multibeam light with flexible swivel offset hanger will be demonstrated in combination with the extensive surgical conveniences of their new operating table, in the Scanlan-Morris Company's exhibit booths, 153 and 154. New electric sterilizers and representative items of their new line of surgical furniture and hospital equipment will also be displayed.



Chevalier Jackson Instruments

The George P. Pilling exhibit will afford an opportunity to examine a modern, complete showing of thoracic instruments,

LIST OF EXHIBITORS ★

Firm Name	Aisle	Space No.
Abbott Labs., North Chicago, Ill.	D	89 & 90
Allison Co., W. D., Indianapolis	B	30
Alox Co., A. S., St. Louis	B & D	20, 21 & 82
A. M. A. Periodicals and Books	F	132
Amer. Bakery Assn., Chicago	F	130
Amer. Can Co., New York	F	252 and 253
Amer. Cystoscope Makers, New York	G	230
Amer. Gas Accumulator Co., Elizabeth, N. J.	D	99
Amer. Hosp. Supply Corp., Chicago	G	171
Amer. Institute of Laundering, Joliet	H	213
Amer. Optical Co., Southbridge, Mass.	C	47 & 48
Amer. Safety Razor Corp., New York	G	167
Amer. Seating Co., Grand Rapids, Mich.	F	146
Amer. Steriliser Co., Erie, Pa.	B	22
Appleton-Century Co., D., New York	C	52
Armand Co., The, Des Moines	B	34
Armour and Co., Chicago	F	142
Assn's Natl. Phys. Exchange, Chicago	E	107
Bard-Parker Co., Inc., Danbury, Conn.	B	32 and 33
Baum Co., W. A., New York	F	126
Bausch & Lomb Opt. Co., Rochester, N. Y.	C	62
Beaver, Inc., Rudolph, Waltham, Mass.	B	231
Becton Dickinson & Co., Rutherford, N. J.	G	186-187-188-189-190
Bell & Howell Co., Chicago	I	194
Beta Co., F. S., Hammond, Ind.	F	141
Bilhuber-Knoll Corp., Jersey City	E	72
Blakiston's Son & Co., Philadelphia	E	109
Borcherdt Malt Extract Co., Chicago	D	98
Buck X-Ograph Co., St. Louis	G	44
Burdick Corp., The, Milton, Wis.	B	18
Burton Mfg. Co., Chicago	F	261
Calco Chemical Co., Bound Brook, N. J.	G	184
Cambridge Instr. Co., New York	F	159
Cameron Surg. Specialty Co., Chicago	G	53
Camp & Co., S. H., Jackson, Mich.	C	19
Carnation Milk Sales Co., Milwaukee	D	92 & 93

many new brain and eye, ear, nose and throat instruments, and, of course, the well-known Chevalier Jackson bronchoscopic instruments made by this firm. Their pneumothorax apparatus includes a wide choice of both hospital and portable types and accessories. Visit Booth 106.

Improved Food Conveyors

At Booth 181, the Prometheus Electric Corporation will display a complete line of improved food conveyors, sterilizing equipment and infra-red equipment with new patented 3-heat control. New model sterilizers, with cast bronze boilers, fully automatic heat control and other features will also be displayed and explained.

Simplified Pivot Leg Splint

The J. R. Siebrandt Mfg. Co. will feature at their exhibit, Booth 206, an improved Reduction Frame designed by Dr. R. A. Griswold of Louisville, Ky. While the frame assures accurate anatomic reduction and firm fixation, it is noted for its simplicity and adjustability. They will also show the Simplified Pivot Leg Splint, which is the original rocking leg splint, equipped with scale traction and easy to apply.

Surgical Apparatus

The J. Sklar Manufacturing Company, makers of surgical instruments and surgical apparatus, will exhibit in Booths 76 and 77. They will show their complete line of American Made Stainless Steel, as well as pumps and special apparatus, including Davidson's Pneumothorax Apparatus, Ralk's Automatic Direct Blood Transfuser, Dr. Printz's New Hospital Suction Unit, Tompkins' Portable Rotary Compressor, and other specialties of interest to physicians and surgeons.

Suction and Pressure Apparatus

C. M. Sorensen Company will have on display, in Booth 150, several interesting models of combinations of Suction and Pressure Apparatus; also allied accessories for tonsil irrigation, and Dr. Schillinger's new apparatus for displacement filling of nasal sinuses.

Cast Cutter to Be Shown

The Cary Cast Cutter will be shown and demonstrated by Zimmer Manufacturing Company in Booth 143. This is a new hand cast cutter which needs only to be seen in use to be appreciated. A complete line of the modern fracture appliances will also be on display. All doctors are invited to this booth.

Electromedical Apparatus

Progress in the design of apparatus for x-ray diagnosis and high voltage therapy may be seen in this year's exhibits of the General Electric X-Ray Corporation. From the modest requirements of average office practice up to the powerful equipment designed for the specialized x-ray department, the wide G-E line offers a selection exactly suited to your individual needs. The G-E Inductotherm and other physical therapy apparatus will also be shown. Booths 155, 156, 157 and 158.

BOOKS

New "Practitioners Library"

An outstanding feature of the D. Appleton-Century exhibit, Booth 52, will be their "Practitioners Library of Medicine and Surgery," now nearing completion under editorial supervision of Dr. George Blumer. There will also be on view the first of three volumes of their new "Postgraduate Surgery," Sir William Osler and Thomas McCrae's "Principles and Practice of Medicine," and the new edition of Milton J. Rosenau's "Preventive Medicine and Hygiene."

Blakiston's Book Display

Space 109 will be occupied by P. Blakiston's Son & Co., Inc., who will exhibit the following books: East's "Medical Aspects of Crime"; Halliburton & McDowall's "Physiology"; Lawrence's "Diabetic Life"; Osgood's "Laboratory Diagnosis"; Piney & Wyard's "Atlas of Blood Diseases"; Strecker & Ebaugh's "Clinical Psychiatry"; Whitby & Britton's "Disorders of the Blood"; Winton & Bayliss' "Physiology."

"Cyclopedia" on Display

Convention visitors are cordially invited to stop at Booth 222 and examine the interesting new books which are being shown for the first time by F. A. Davis Company. The Cyclopedia of Medicine and Surgery, in twelve large volumes, will be an outstanding feature of the exhibit.

Lea & Febiger Medical Works

Lea & Febiger will exhibit some important new books and new editions at Booth 116. The new titles include Graham, Singer, Ballon's "Diseases of the Chest"; Berglund & Medes on the Kidney; Hawes & Stone on Tuberculosis, and DeRivas' "Parasitology." New editions include Joslin's "Diabetes," Jeliffe & White's "Nervous Diseases," Boyd's "Pathology of Internal Diseases," and Stimson's "Contagious Diseases."

To Feature Unusual Books

You can see these new books and new editions at the J. B. Lippincott Company's exhibit, Booths 79 and 80: Pfaundler & Schlossmann's "Diseases of Children"; Peham & Amreich's "Operative Gynecology"; Kirschner & Ravdin's "Operative Surgery"; McBride's "Disability Evaluation"; Barborka's "Treatment by Diet"; Sr. Gabriel's "Through the Patient's Eyes"; Barker's "Treatment of the Commoner Diseases"; Eisendrath & Rolnick's "Urology"; Anspach's "Gynecology," and the "International Clinics" and "Annals of Surgery."

"Textbook of Obstetrics"

The Macmillan Company will have on display at their booth, No. 96, new and outstanding books in many branches of medicine and surgery. One important work to be shown is Irving's "Textbook of Obstetrics," just published. Their representatives will be glad to give you information concerning this or any other of their books in which you may be interested. Proofs of several books now being printed will also be shown upon request.

To Show Newer Publications

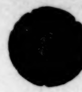
In Booth No. 7, the C. V. Mosby Company will feature their new publications released within the past year. Among the items to be shown are: Taussig's "Abortion"; Bray's "Synopsis of Clinical Laboratory Methods"; Hansel's "Allergy of the Nose and Paranasal Sinuses"; and Sadler's "Theory and Practice of Psychiatry."

From the Oxford Press

Visitors are invited to visit Booth 118 to review recent medical publications of the Oxford University Press. Among those to be shown are "Diagnosis and Treatment of the Heart," by Dr. Henry A. Christian; "Diagnosis and Treatment of Diseases of the Peripheral Arteries," by Dr. S. S. Samuels, and the Oxford "Loose-Leaf Medicine."

Shown for First Time

The union of the old house of William Wood and Company with the young house of Williams & Wilkins brings an excellent combined exhibit to Booth 86. Books shown for the first time include Beck's "Obstetrical Practice," Grollman's "The Adrenals," Himes' "Medical History of Contraception," Harrison's "Roentgenology," and Henry's "Psychopathology."



A New "Parenteral Therapy"

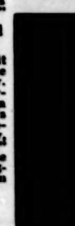
Dutton and Lake's "Parenteral Therapy," covering general technic, hundreds of diseases, and over 700 drugs with which parenteral medication is concerned, may be inspected at Booth 85. Other new books to be shown by Charles C. Thomas include Landsteiner's "The Specificity of Serological Reactions"; E. P. Sloan's "The Thyroid: Surgery, Syndromes, Treatment"; Percy Brown's "American Martyrs to Science Through the Roentgen Rays"; and Kanner's "Child Psychiatry."

Annals of Medical History

Paul B. Hoeber, Inc., Medical Department of Harper and Brothers, will display their entire line in Booth 83. Current numbers of the Annals of Medical History will be shown, together with copies of back numbers since 1917. Among recent monographs to be displayed are Riesman's "Story of Medicine in the Middle Ages," Warbasse's "The Doctor and the Public," Weiss' "Diseases of the Liver, Gall Ducts & Pancreas," and Jacoby's "Physician, Pastor and Patient."

"Surgery, Gynecology and Obstetrics"

A cordial invitation to visit Booth 185 is extended by the Surgical Publishing Company. Here you can inspect the "International Abstract of Surgery," a review and index of the world's current surgical literature, published as a part of "Surgery, Gynecology and Obstetrics." Also to be displayed is "The Joy of Living," an autobiography by the late Dr. Franklin H. Martin.



★ LIST OF EXHIBITORS

Firm Name	Aisle	Space No.
Cash, Inc., J. & J., South Norwalk, Conn.	I	246
Castle Co., Wilmot, Rochester, N. Y.	E	102 & 129
Cayo, Dr. E. P., San Antonio	H	218
Chappel Bros. Labs., Rockford, Ill.	C	39
Chicago Dietetic Supply House, Chicago	H	198
Chicago Medical Book Co., Chicago	B	23
Church & Dwight Co., New York	F	137
Ciba Co., Inc., New York	B	28
Cilkloid Co., The, Marshalltown, Ia.	C	67
Cincinnati Scientific Co., Cincinnati	J	256
Clapp, Inc., Harold H., Rochester, N. Y.	E	108
Collins Inc., Warren E., Boston	B	35
Coop. Med Adv. Bur.	F	132
Corn Products Refining Co., New York	H	221
Crescent Surg. Sales Co., New York	H	199
Cutter Laboratories, Berkeley, Calif.	C	46
Davies, Rose & Co., Boston	I	227–228
Davis & Geck, Inc., Brooklyn	D	87

Firm Name	Aisle	Space No.
Davis Co., F. A., Philadelphia	I	222
Day's Ideal Baby Shoe Co., Mrs., Danvers, Mass.	H	219
De Forest Labs., Lee, Los Angeles	J	239
DePuy Mfg. Co., Warsaw, Ind.	D	84
DeVilbiss Co., The, Toledo	E	113 & 114
Dictograph Prods. Co., Inc., New York	G	165
Drug Products Co., Inc., Long Island City	H	200
Dry Milk Co., Inc., The, New York	I	233 & 234
Dubin Labs., Inc., H. E., New York	C	61
Duke Laboratories, Inc., Long Island City	E	119
DuPont Film Mfg. Corp., New York	G	177
Earnshaw Knitting Co., Newton, Mass.	G	168
Eastman Kodak Co., Rochester, N. Y.	G	179–180
Electro Surg. Instr. Co., Rochester, N. Y.	H	212
Electro Therapy Prods. Corp., Los Angeles	I	235
Emerson, J. H., Cambridge, Mass.	H	210
Enochs Mfg. Co., Indianapolis	E	126
Fischer & Co., Inc., H. G., Chicago	C	58

V 106
1936

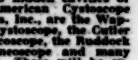
DIAGNOSTIC APPARATUS

For Showing Body Cavity Secrets

Among the interesting instruments made for throwing light into hidden cavities of the body by the American Cystoscope Makers, Inc., are the Wappler Cystoscope, the Cutler Thoracoscope, the Ruddock Peritoneoscope and many others. These will be explained and demonstrated in booth 230 by competent representatives. Many of the instruments are of new development.

Blood Pressure Specialists

Attendants at the booth of W. A. Baum Co. will be glad to give to visiting physicians whatever knowledge the company has accumulated out of its twenty years' experience in the manufacturing of mercury-gravity sphygmomanometers. The newest cast duralumin "Baumanometer" will be shown and a copy of the U. S. Bureau of Standards booklet given free to visitors. Booth 130.



Blood Chemistry Units

In booth 81 will be shown LaMotte Blood Chemistry Units for the physician. They will be in charge of chemists who can explain their simple operation in connection with blood and urine analysis. The improved Kline Slide Test for Syphilis will also be explained. Other standard diagnostic units will be included.

Bausch & Lomb Instruments

Scientific instruments for the medical profession and medical students will feature the exhibit of Bausch & Lomb Optical Company in Booth 62. These instruments will include the Model HA Physician's and Medical Student's microscope, hemoglobinometers, colorimeters, clinical microtomes, hemaglobinometers, centrifuges, and accessory equipment for laboratory use.

New Instruments for Old

In Booth 53 the Cameron Surgical Specialty Company will show the latest developments in electrically lighted diagnostic instruments. New diagnostic sets for Boston bags will be featured in a wide variety of prices. Also included will be the Tele-Vaginalite (Micro-Colposcope) and the Cameron Casterodyne. A representative will be glad to explain how it is possible to exchange present Cameron instruments for the more improved models.

For Cardiac Diagnosis

Instruments to be found in the exhibition of The Cambridge Instrument Company, Inc., are the Hindle Portable Electrocardiograph, the All-Electric Mobile Electrocardiograph, the Mobile Electrocardiograph-stethograph, the Stethograph Attachment, the Portable Stethograph and the Amplifying Stethoscope. A new development is their heart sound recording equipment. Booth 159.

New Jones Motor-Basal

You may have your own metabolic rate taken by the Middlewest Instrument Company, booth 178. See the demonstration of the new All-Electric Jones Motor-Basal, both hospital and portable models, with inkless recording electric clock, waterless spirometer and direct reading technic.

A $550 Electrocardiograf

The operation and construction of the new low priced electrocardiograf called the Cardiette, will be explained by the Sanborn Company in Booth 105. Technicians will also demonstrate the larger hospital size Electric-Portocardiografs and the latest Sanborn Motor-Grafic Metabolism Tester, Model E-1-S, which features a spring-balanced oxygen bell and Stylegraf chart records.

To Show Optical Instruments

At the Spencer Lens Company Booth, No. 49, there will be a complete line of scientific optical instruments of special interest to the medical group. It will include binocular microscopes featuring the convenient coaverging inclinocular, photomicrographic cameras with side focussing telescope, microtomes, and new microscope lamps for research work.

New Instruments Featured

Recent developments in hand ophthalmoscopes and otoscopes will be shown at Booth 232. The Welch Allyn Company has added a number of features to these instruments, some of which have never before been shown. Not only will their complete line of eye, ear, nose and throat instruments be on display but new rectal instruments, urethroscopes, vaginoscopes and cystoscopes.

FOOD PRODUCTS

For Pulping Baby's Food.

Doctors will be interested in the new Junior Size Foley Food Mill, which strains vegetables and fruits fine enough for infants, quickly, easily and safely. It will be on exhibit in Booth 65, where representatives of the Foley Manufacturing Company will be pleased to explain its many uses, not only for infants, but for non-roughage diets.

For Restricted Diets

Cellu Juice-Pak Fruit, consisting only of choice tree ripened fruit and added fruit juice of its own kind, will be shown at Booth 198. The product is especially adaptable to quantitative diets of restricted carbohydrate value. The food values on the labels simplify calculations. Other special foods will be shown.

Samples of Borchardt Products

At the Borchardt Malt Extract Company exhibit, Booth 98, samples of the following products will be supplied upon request: Borchardt Malt Soup Extract, Malt with Cod Liver Oil, Malos (Malt Sugar), and Malt Extract Plain. Special information on recent bio-assays of Vitamins A, B and D will also be available.

Gold Medal Foods on Display

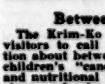
General Mills, Inc., will display Embo (wheat embryo) and also these nationally-known Gold Medal Foods: Softasilk Cake Flour, Bisquick, Wheaties and "Kitchen-tested" Flour. Literature explaining the nutritive value of these wheat products, together with suggestions for their use, will be given free at Booth 236.

Motion Picture Will Be Shown

A feature of the American Can Company exhibit will be a motion picture depicting the formation of the hermetic "double seam" on the tin container. Also at their booths, 252 and 253, information will be available concerning those aspects of commercially canned foods which are of greatest interest to the medical profession. Literature on canned foods, designed specifically for the physician's use, will be on display.

Sanka Coffee to Be Served

General Foods invite you to visit Booth 207 and drink a cup of Sanka Coffee. Then you'll know for yourself how rich it is in flavor and aroma, even though it's practically free from caffeine. Also on display at their booth you'll find D-Zerta, an attractive sugar-free gelatin dessert for patients on a low carbohydrate diet.



Between-Meal Feeding

The Krim-Ko Company cordially invites visitors to call at Booth 197 for information about between-meal feeding, satisfying children's "candy hunger" in a natural and nutritional way, and getting more calcium and phosphorus into the diets of children who "balk" at drinking milk.

Have a Cup of Coffee

Doctors are invited to visit the Kellogg Booth, No. 17, for a cup of refreshing Kaffee Hag Coffee. Bottle exhibits showing the stages in decaffeinizing coffee are to be displayed and explanation will be given. Reprints covering research on effects of caffeine and also on bran will be furnished upon request.

Register for Nutritional Charts

The H. J. Heinz Company invites you to visit Booth 214 and see their display of tomato juice, breakfast cereals, and strained

LIST OF EXHIBITORS ★

Firm Name	Aisle	Space No.
Foley Mfg. Co., Inc., Minneapolis	C	63
Foregger Co., Inc., The, New York	H	208
Form Publishing Co., New York	G	173
Fougera & Co., E., New York	G	169
Gastro-Phoster Labs., New York	H	213
General Electric Co., Cleveland	D	68, 100, 101
General Electric X-Ray Corp., Chicago	J	135–136–137
General Foods Corp., New York	H	207
General Mills, Inc., Minneapolis	I	236
Gerber Products Co., Fremont, Mich.	F	135
Goetze-Nieuser Co., Kansas City, Mo.	G	164
Gomco Surg. Mfg. Corp., Buffalo	H	211
Hamilton Mfg. Co., Two Rivers, Wis.	C	63 and 64
Hanovia Chem. & Mfg. Co., Newark	C	54
Hawaiian Pineapple Co., San Francisco	I	264
Heidbrink Co., The, Minneapolis	H	203
Heinz Co., H. J., Pittsburgh	H	214
High Tension Corp., New York	F	131 & 162
Hoeber, Inc., Paul B., New York	D	83
Hoffmann-La Roche, Inc., Nutley, N. J.	F	111
Hospital Liquids, Inc., Chicago	E	103
Hygeia	E	128
Hynson, Westcott & Dunning, Baltimore	D	94 and 95
Illinois Surg. Supply Co., Chicago	D	75
Irradiated Evap. Milk Inst., Chicago	I	43
Isle Co., The W. E., Kansas City, Mo.	H	209
Johnson & Johnson, New Brunswick, N. J.	F	145
Kelley-Koett Mfg. Co., Covington, Ky.	C	40–41–42 and 43
Kellogg Co., Battle Creek, Mich.	F	17
Keystone View Co., Meadville, Pa.	J	257
Knox Gelatine Co., Johnstown, N. Y.	H	204 & 205
Krim-Ko Co., Chicago	H	197
Lakeside Labs., Milwaukee	A	4
LaMotte Chemical Prods. Co., Baltimore	D	81
Larsen Co., The, Green Bay, Wis.	H	220
Lea & Febiger, Philadelphia	E	116

foods especially prepared for infant and convalescent feeding. Also they suggest that you register for the revised edition of their Nutritional Charts. It contains, along with vitamin, mineral and food composition sections, new ones on daily requirements and food allergy.

Milk Irradiation

The Irradiated Evaporated Milk Institute, in Booth 45, will show a novel display symbolizing in light, color, metal and photography, the enrichment of evaporated milk with vitamin D by means of irradiation (Steenbock process). Literature will be available on infant feeding, on the nutritive value and uses of the enriched milk, and on the method and value of irradiation.

See the Mechanical Cow

At the Nestle's Milk Products, Inc. Booth, No. 27, visitors will see the Nestle mechanical cow. She is a talented little lady who will blink her eyelids, wag her head, flick her tail and moo softly. Her markings represent the world-wide distribution of Nestle Products. Literature and samples of Lactogen, Hylac and Nestle's Food will be available to all interested physicians.

Pablum

Mead Johnson & Company will show in Booths 36 and 37 the result of recent studies on the digestion and nutritive value of Pablum. The physical characteristics of the product will be illustrated by photomicrographs and microprojection equipment, and in-vitro enzymatic digestions will be performed showing how various starches digest when cooked by different methods. Charts will also visualize some of the nutritive values of Pablum.

Infant Feeding

Fitting the food to the baby, the correct approach to bottle feeding, and other principles underlying the Mellin's Food method of milk modification, will be discussed by well qualified representatives at Booth 91. Physicians are cordially invited to call.

A Completely Modified Milk

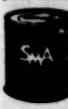
The M & R Dietetic Laboratories will have in their display a completely modified milk for infants deprived of breast feeding. Representatives will be on hand to explain the value of the low curd tension of Similac as it applies to infant feeding, and also the special cases in which it has proved beneficial. They will also explain the value of Spintrate as a mineral supplement. Booth 97.

Palatable Products for Baby

Stokely Brothers and Company will exhibit their Strained Foods for babies, in Booth 182. Their nine varieties include cereal, vegetable soup, spinach, carrots, peas, green beans, tomatoes, prunes and apricots—all packed in golden enamel lined cans, and seasoned with salt or sugar under laboratory control—and all distinctly palatable. Visitors are invited to call and register.

S.M.A. and Smaco Products

The S.M.A. Corporation will offer for your attention at Booth 57 the story of the significant resemblances of S.M.A. to breast milk. The display will also include Smaco Carotene crystals, liquid, and capsules for providing concentrated vitamin A activity in the same form in which it occurs in the normal human diet.



Learn About Vegex

The Vegex exhibit will show a study in tests for Sherman B_1 and B_2 (G) units, international B_1 units with B complex free test comparisons. Photostats from medical literature mentioning Vegex will be given. As usual, the exhibit will demonstrate the palatability of Vegex with butter on bread, in broth, milk and tomato juice. Booth 71.

To Serve Vitamin D Milk

The Vitex Laboratories will again serve Vitex Vitamin D Milk at Booths 240 and 241—all you can drink. Every quart of Vitex Vitamin D Milk contains 400 U.S.P. units of the cod liver oil Vitamin D.

MISCELLANEOUS

Public Health and Laundering

The exhibit in Booth 215 will illustrate how the science of laundering fits into the public health program. It will show what the American Institute of Laundering has determined, by accurate laboratory testing, about the relative efficiency of home and commercial laundering processes. Fully informed attendants will be present to explain the exhibit, and descriptive booklets will be available.

Better-Sight Desk

A visit to Booth 146 will show what a progressive school seat manufacturer has accomplished to protect the health of school children. You will see here what the American Seating Company has done to develop a new type of school seat that makes correct posture natural and comfortable, and at the same time relieves children of the eyestrain usually associated with old type of school seating.

Aznoe's Employment Service

An experienced representative will be on hand at Aznoe's National Physicians' Exchange Booth, No. 107. She will be glad to assist all employing officials interested in adding to, or making a change in their present personnel, whether it be a physician, nurse, dietitian, technician or other medical assistant. This service is free to employers. Also the representative will be glad to discuss the Aznoe service with those seeking an appointment or desiring to make a change.

Motion Picture Equipment

In Booth 194 Bell & Howell will display and demonstrate various types and sizes of Filmo movie cameras, projectors and accessories, showing models for every purse and purpose. Included will be the new Filmo Straight 8 and Double 8 Cameras, featured as "the world's smallest practical movie cameras," which use low cost 8 mm. film.

The Doctor and the Law

How medical liability insurance has kept pace with the science of medicine may be learned at Booth 25, where the Medical Protective Company, which specializes in this field, will be represented. Complete sets of the quarterly booklet "The Doctor and the Law," prepared by the Company's Law Department, will be available for examination. This publication represents an exclusive prophylactic and protective service by this Company to its clients.

Medical Personnel

In Booth 3, M. Burneice Larson will offer the facilities of the Medical Bureau, which deals with problems of medical and nursing personnel. The records of physicians who have specialized, men and women interested in assistantships, accredited graduate nurses, and laboratory technicians and dietitians will be available to those interested in the completion or reorganization of their staffs.

For Treatment of Burns

Visitors interested in treatment of burns with Tannic Acid in jelly or paste form should call at Booth No. 87, where the Impervious Form of "Cliklold" Surgical Dressing will be exhibited as a non-adherent dressing. The Impervious Form will also be shown for non-adherent nasal packs, as well as for protective and occlusive coverings. The Perforated "Cliklold" will be shown as a direct dressing.

Complete Orthoptic Equipment

The Keystone View Company will present complete orthoptic equipment in Booth 357. The exhibit will include anaglyphic stereographs, home and office training material, the Malingering Tests and Visual Safety Tests for highways and industries, and the Ready Read Tests for schools. New this year is the Tel-Eye-trainer with TeleRotor control, which will be of interest to all leaders in the field of orthoptic practice.

Inexpensive Case History Method

A system that shows at a glance the case you want, how many calls you made and when, the patient's history, the developments, diagnosis and treatments, as well as the financial status of each case, will be shown in Booth 55 by the Medi-

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★ LIST OF EXHIBITORS

Firm Name	Aisle	Space No.
Lederle Labs., New York	C	59 and 60
Lepel High Frequency Labs., New York	D	69 and 70
Liebel-Flarsheim Co., Cincinnati	I	223 & 224
Lilly and Co., Eli, Indianapolis	A	9–10 & 13
Linde Air Products Co., New York	I	242–243–244–245
Lippincott Co., J. B., Philadelphia	D	79 & 80
McCaskey Register Co., Alliance, Ohio	I	225 & 226
McIntosh Electrical Corp., Chicago	C	50
McKesson Appliance Co., Toledo	H	216–217
M & R Dietetic Labs., Columbus, Ohio	D	97
Machlett Labs., Inc., Springdale, Conn	G	191
Macmillan Co., The, New York	D	96
Mallinckrodt Chemical Wks., St. Louis	B	34
Maltbie Chemical Co., Newark	E	104
Maltine Co., The, New York	A	12
Marcelle Laboratories, Chicago	D	88
Marvel-Clarke Co., Chicago	A	3A
Mead Johnson & Co., Evansville, Ind	A, B & F	5, 6, 36, 37 & 134
Medical Bureau, The, Chicago	A	3
Medical Case History Bur., New York	C	55
Medical Protective Co., Wheaton, Ill	B	25
Mellin's Food Co., Boston	D	91
Mennen Co., The, Newark	F	160 & 161
Merck & Co., Inc., Rahway, N. J	B	31 and 32
Merrel Co., The Wm. S., Cincinnati	D	78
Middlewest Instr. Co., Chicago	I	178
Mosby Co., The C. V., St. Louis	A	7
Mueller & Co., V., Chicago	E	111–112
National Carbon Co., Cleveland	I	242–243–244–245
National Drug Co., Philadelphia	B	26
Nestle's Milk Products, New York	C	27
O'Leary, Inc., Lydia, Newark	I	235
Oxford University Press, New York	E	118
Parke, Davis & Co., Detroit	F	138–139–140
Patterson Screen Co., Towanda, Pa	D	73
Pelton & Crane Co., Detroit	H	202

cal Case History Bureau. All of the history forms will be displayed as they are actually kept in their cabinets.

Prescription Footwear

A great variety of Walk-Over Prescription footwear will be shown by the George E. Keith Company. In the display will be samples of the firm's educational material, such as booklets on shoes, lasts, fitting and Main Spring Arch; folders on foot exercises for distribution to patients; and enlarged charts for office use. These will be sent free to doctors registering in Booth 149.

One-Writing System

At Booths 235 and 236, the McCaskey Register Company will display their One-Writing System for Physicians, which includes visibility for individual active patients' records. This method protects income and provides instantly available records, professional and financial.

Woven Names and Labels

The well known Cash Names and Labels for marking hospital linen and clothing, uniforms and wearables of doctors, nurses, and orderlies, will be displayed by J. & J. Cash, Inc., in Booth 246. Visitors will be given sample tubes of Cash's NO-SO Cement for attaching these names and labels without sewing.

Philip Morris Cigarettes

Philip Morris & Co., Ltd., Inc., will demonstrate the method by which it was found that Philip Morris Cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than ordinary cigarettes in which glycerine is employed. Booth 147.

"Evenflo" Baby Nursing Unit

The Pyramid Rubber Company will again exhibit their "Evenflo" Baby Nursing Unit. With this aid there is no vacuum or back pressure to nurse against. Baby feeds in comfort and contentment. Easier for mother, too. Sanitarily protects formula and nipple between feedings. Helps to assure easy, peaceful, wholesome feeding. See demonstration in Booth 230.

To Demonstrate Supports

Physicians and their wives will find the exhibit of Spencer Surgical and Style garments interesting, Booth 51. Nurses and representatives will demonstrate the principle of all Spencer Supports, which places weight of abdominal uplift on the pelvic girdle—not on spine at, or above, lumbar region. They will explain the process of individually designing each separate garment for such purposes as post-operative, maternity and postpartum wear.

Physicians Leather Goods

The Western Leather Manufacturing Company will display their entire line of physicians' leather goods in Booth 66. The exhibit will include bags, medicinal cases, vial cases and prescription pad covers. Their representative will be pleased to discuss any personal, individual need involving leather goods of any description.

Wright Arch Preserver Shoes

Of particular interest in the E. T. Wright & Company exhibit will be several special orthopedic lasts for men, developed and improved in collaboration with members of the profession. The special measurements and extra built-in features of support in these shoes, with the authentic Wright Arch Preserver construction of their lasts, supply the requirements for a wide range of foot disorders and subnormalities. Booth 16.

OFFICE FURNITURE

Fine Wood Furniture

The W. D. Allison Company, manufacturers of physicians' fine wooden furniture for more than fifty years, will have on display three complete suites, as well as the popular Hanes metal table. Visitors are urged to visit Booth 30 and see this equipment.

New Styles in Office Furniture

The Enochs Manufacturing Company of Indianapolis will display the latest creations in physicians' office equipment. They will have in attendance an expert on arrangement and decoration of modern medical offices. A visit to their Booth, No. 136, will prove interesting and worth while.

Tables for General Use

The Hamilton Manufacturing Company is to show in Booths 63 and 64 complete suites in their Moderne Nu-Classic Medical Furniture and standard Hometone Furniture. New tables will be featured which combine the examining table with a practical treatment feature. All doctors and especially all internes are cordially invited to visit this showing of modern medical furniture.

Feature Hydraulic Chair-Table

A hydraulic office treatment and operating chair-table, reasonably priced, will be featured by the Illinois Surgical Supply Company at Booth 75. The table may be quickly and easily adjusted to all desired positions, including the true Trendelenburg. Arms are completely removable, and chair is permanently upholstered and finished in stainless porcelain and chromium. Many other items will be shown.

PHARMACEUTICALS AND BIOLOGICALS

Pollen Enlarged 8 Billion Times

A most interesting feature to be seen at the Abbott Laboratories exhibit, Booths 89 and 90, is the display of enlarged pollen granules. Each model, although 8 billion times larger than actual size, is a true reproduction of the granule as it appears under the microscope. Abbott Laboratories will also show a representative assortment of their large list of "Council-Accepted" products. Included are Abbott's Acriflavine, Metaphen, Neonal, D.R.L. Bismarsen, D.R.L. Neoarsphenamine, Abbott's Viosterol, Haliver Oil with Viosterol and others.

Intravenous Solutions

The American Hospital Supply Corporation of Chicago and New York, will exhibit Baxter's Intravenous Solutions in Vacoliters, in Booth 171. Visitors are invited to call.

Armour Exhibit

Armour and Company's exhibit will demonstrate the fact that organotherapeutic preparations, unlike most other pharmaceuticals, are made of highly perishable raw material which will lose its efficacy unless it is properly handled. Their booth, No. 142, will depict the sources of glandular preparations, surgical ligatures, etc., in meat animals. Along with a vial of Pituitary Liquid, for example, will be shown the glands from which the substance is extracted. Competent men will be in attendance.

Metrazol to Be Shown

At Booth 72, information will be available concerning possibilities of Metrazol as an antagonist to such drugs as the barbiturates, the opiates, avertin, ether, and in asphyxia neonatorum; also reports on Theocalcin in the treatment of congestive heart failure and angina pectoris, and Diliudil, for pain relief and cough. Other Bilhuber-Knoll products to be featured are Lenigallol and Bromural.

Ciba Specialties

Physicians are cordially invited to visit the Ciba booth, No. 28, where they will find exhibits of such well known Ciba Specialties as Digifoline, Dial, Nupercaine, Lipoiodine, and Viaform. Some interesting new uses for these products will be described by the Assistant Medical Director and representatives of the firm, who will be glad to discuss any questions.

To Feature Cardiotonic

Urginin and Trichlorethylene will be displayed by the Calco Chemical Company in Booth 184; also the cardiotonic, Urginin, representing the combined water-insoluble squill glucosides (Scillonin A and Scillonin B) in approximately equal proportions; and trichlorethylene-Calco in 1 cc. frangible mesh-covered ampules, for relief in facial neuralgias.

Dubin Aminophyllin

In Booth 61, daily demonstrations of the easy solubility of Dubin Aminophyllin will be given by its originator. The drug is useful as a coronary vasodilator, myocardial stimulant and diuretic. Literature and samples will be available.

LIST OF EXHIBITORS ★

Firm Name	Aisle	Space No.
Pet Milk Co., St. Louis	A	13
Petrolagar Laboratories, Chicago	A and I	8, 247, 248 and Room A, adjoining
Philip Morris & Co., New York	F	147
Philips Metalix Corp., New York	H	196
Phillips Co., Dr. F., Orlando, Fla.	J	234
Picker X-Ray Corp., New York	G	174–175 & 176
Pilling & Son Co., Philadelphia	E	106
Prior Co., W. F., Hagerstown, Md.	E	117
Prometheus Elec. Corp., New York	G	181
Puritan Compressed Gas Corp., Kansas City, Mo.	G	172
Pyramid Rubber Co., Ravenna, Ohio	J	238
Radium Chem. Co., New York	G	170
Radium Emanation Corp., New York	A	14
Radon Co., Inc., New York	G	179
Remington Typewriters	adj. booth	103
Rose Mfg. Co., E. J., Los Angeles	I	235
Russell and Co., Kansas City, Mo.	C	38
S. M. A. Corp., Cleveland	C	57
Sanborn Co., Cambridge, Mass.	E	105
Sandoz Chem. Works, New York	I	110
Saunders Co., W. B., Philadelphia	E	114 & 115
Scanlan-Morris Co., Madison, Wis.	F	153 & 154
Schering Corp., Bloomfield, N. J.	D	74
Schieffelin & Co., New York	F	262
Scientific Sugars Co., Indianapolis	G	192
Searle & Co., G. D., Chicago	B	29
Selby Shoe Co., Portsmouth, Ohio	J	243
Sharp & Dohme, Philadelphia	A	1 and 2
Siebrandt Mfg. Co., Kansas City, Mo.	H	206
Sklar Mfg. Co., J., Brooklyn	D	76 & 77
Smith Co., Upsher, Minneapolis	C	56
Smith, Kline & French Labs., Philadelphia	F	144
Snuggle Rug Co., Goshen, Ind.	G	163
Sorensen Co., C. M., Long Island City	F	150

Dependable Digitalis Preparation

Visitors are invited to call at Booths 227 and 228, where they will find exhibited products of Davies, Rose & Co., Ltd. One outstanding production of this firm's laboratory to be shown is Pil. Digitalis (Davies, Rose). The physiological dependability of these pills has won for them widespread recognition.

Improved Tablet Making

The Drug Products Co., Inc. (Booth 200), will demonstrate the advantages of their Pulvoids by reduction to powder under thumb pressure. They will show how the rapid disintegration results in prompt assimilation of medicaments.

Recently Developed Uses of Lipiodol

Physicians who visit Booth 169, of E. Fougera & Co. will be offered an excellent opportunity to discuss the recently developed uses, both diagnostic and therapeutic, in which Lipiodol Lafay has been employed. Digitaline Nativelle will also be displayed. Information will be available concerning the research recently completed surrounding this stable Glucoside of Digitalis purpurea.

Subcutaneous Liver Extract

Their Subcutaneous Liver Extract is to be featured by Chappel Laboratories in Booth 39. This preparation lends itself readily to office and hospital routine where a trained assistant can administer it with ease and safety. The product has been reported in current medical literature. Reprints and complimentary supplies will be available to physicians.

Sodium Bicarbonate U.S.P.

Church & Dwight Co., Inc., who for 90 years have concentrated on producing pure sodium bicarbonate, will exhibit in Booth 137. Here they will show those dependable old products that have stood the "acid" test of time since 1846—Arm & Hammer and Cow Brand Bicarbonate of Soda.

Intravenous Products

The Cutter Laboratories, in Booth 46, will exhibit their Council Accepted, prepared and ready to use Dextrose and other solutions in Safflask containers. Demonstrations will be held to show the proper technique for putting these flasks in operation and to demonstrate the ease and simplicity of their use to the physician. A complete line of Council Accepted Cutter biological products will also be included.

"Medicines of Rare Quality"

A call at the Hoffmann-LaRoche Booth, No. 151, may very well be an essential part of every visitor's itinerary. Anticipating unprecedented interest in their display this year, 'Roche' assures that there will be in attendance the usual adequate staff of representatives of the Medical, Scientific and Research Divisions to permit of uninterrupted personal discussion of 'Roche' "Medicines of Rare Quality."

To Demonstrate Filtrair Method

The newer methods of administration of parenteral solutions will be featured by Hospital Liquids, Inc., in Booth 163. Interesting demonstrations of the Filtrair method will be on display and an attractive booklet on parenteral administration, reviewing all the literature to date, will be available to physicians. Competent representatives will be in attendance, and they will be glad to discuss the many problems of parenteral therapy.

All About Mercurochrome

Hynson, Westcott & Dunning, Inc., in Booths 94 and 95, will have an interesting display featuring Mercurochrome in its respective dosage forms, including Mercurochrome Surgical Solution for preoperative skin disinfection. In addition, numerous scientific diagnostic appliances and apparatus will be exhibited. Literature and samples will be available to doctors who are not already familiar with products exhibited or who wish a trial supply.

Ampoule Preparations

Their Council Accepted Ampoule preparations, particularly their ampoules of Dextrose (d Glucose) 50%, Sodium Cacodylate and Calcium Chloride, will be exhibited by Lakeside Laboratories, Inc., in Booth 4. Members of the research staff will be present to demonstrate the chemical, bacteriological and physiological methods used to insure the purity, sterility and safety.

New Scarlet Fever Antitoxin

Lederle Laboratories will feature one of their new series of Globulin Modified Antitoxins, a 4000 therapeutic dose of Scarlet Fever Streptococcus Antitoxin contained in a vial of 3½ cc.—together with their latest contribution to Liver Therapy—the "1 cc. Concentrated Solution Liver Extract Parenteral," which contains active substance obtained from 100 grams of Liver. (Booths 59 & 60.) Staff representatives will be in attendance to answer technical questions.

Convention Package to Be Mailed

Visitors are cordially invited to call at the booth of the Maltbie Chemical Company, No. 104. Questions will be answered fully about Calcreose, the original brand of calcium creosotate, U.S.P. XI. The firm will be glad to send a splendid convention package to all those who leave their name and address.

Treatment of Syphilis

Reprint of a scientific report "Standard Treatment Procedure in Early Syphilis," will be available at the Merck Exhibit. A schedule of treatment based on the use of arsphenamine or neoarsphenamine as the foundation of the recommended treatment will be given. Also Cebione (cevitamic acid Merck), pure crystalline vitamin C, will be shown in Booths 31 and 32.

Cod Liver Oil Research

The Maltine Company will demonstrate, in Booth 12, the various steps involved in the manufacture of Maltine with Cod Liver Oil, and will show evidence that the vitamin A value of cod liver oil is enhanced two-fold when administered as Maltine with Cod Liver Oil. Charts and illuminated photographs will show results of recent laboratory research on this subject.

Biological Products

The National Drug Company will exhibit a complete line of antitoxins, curative serums, antigens and vaccines and will demonstrate the various steps used in the refinement and concentration of Antitoxins. They will demonstrate the Sabin-Neufeld method for determining the type of pneumococcus in pneumonia patients and the agglutination testing of Typhoid Vaccine. Particular attention will be directed to Hay Fever and Poison Ivy Antigens. Booth 36.

Puritan Maid Products

The Puritan Compressed Gas Corporation, pioneer medical gas manufacturers, will exhibit in Booth 172. The firm manufactures the "Puritan Maid" line of Nitrous Oxid, Ethylene, Oxygen, Carbon Dioxid, and Carbon Dioxid-Oxygen Mixtures, and are also distributors of leading makes of oxygen tents, nasal catheter outfits, and anesthetic apparatus.

Famous Painting to Be Shown

Owing to many requests from members of the medical profession, Petrolagar Laboratories, Inc., will again exhibit the life-like sculpticolor rendition of "The Doctor," after the famous painting by Sir Luke Fildes, R.A. All physicians attending the meeting are cordially invited to view this renowned three dimensional work of art by Paulding and Ingerie, in the room provided for it. An unusually attractive pharmaceutical exhibit designed especially for the 1936 meeting will also be shown. Booths 8, 247, 248, and adjoining room.

Many Squibb Products Shown

Whether their interest is in endocrinology, metabolic disorders, anesthesia, genito-urinary infections, allergy, nutrition, or immunology, physicians attending the convention will find much of interest in the various Squibb Products useful in these various fields. A unique opportunity is afforded physicians to examine and discuss many of the recent research contributions which lend promise of marked clinical usefulness. Competent representatives will be in attendance at all times to answer inquiries. Booths 122, 123, 124 and 125.

All About Insulin Therapy

Insulin therapy and the newer developments in the production of this important therapeutic agent will be one of the features of the exhibit of Frederick Stearns & Company, Booth 153. Another interesting new product which will be demonstrated at this exhibit will be Neo-Synephrin Hydrochloride, a vaso-constrictor for the relief

(Continued on advertising page 83)

★ LIST OF EXHIBITORS

Firm Name	Aisle	Space No.
Spencer Corset Co., New Haven	C	51
Spencer Lens Co., Buffalo	C	49
Squibb & Sons, E. R., New York	E	122, 123, 124, 125
Standard X-Ray Co., Chicago	J	249–250
Stearns & Co., Frederick, Detroit	F	132
Stehely Bros. & Co., Indianapolis	G	182
Stern Instrument Co., St. Louis	F	148
Sun-Rayed Co., Frankfort, Ind.	G	166
Supt. of Exhibits	J	113
Surgical Mechanical Research, Los Angeles	I	193
Surgical Publishing Co., Chicago	G	185
Taylor Instr. Cos., Rochester, N. Y.	G	183
Thomas, Charles C., Springfield, Ill.	D	85
Tower Co., Inc., The, Seattle	E	301
Treatment Regulator Corp., Detroit	I	195
United Fruit Co., Boston	E	121
Vitamin Food Co. and Vegex, Inc., New York	D	71
Vitex Labs., Inc., Harrison, N. J.	I	240 and 241
Waite & Bartlett X-Ray Mfg. Co., Cleveland	G	174–175 & 176
Walk-Over Shoe Co., Campello, Mass.	F	149
Wallace & Tiernan Prods., Belleville, N. J.	J	251
Welch Allyn Co., Auburn, N. Y.	C	233
Western Leather Mfg. Co., Chicago	C	66
Westinghouse X-Ray Co., Long Island City	J	237, 238, 239 and 240
White Laboratories, Inc., Newark	E	120
Wilmot Castle Co., Rochester, N. Y.	E	102 & 139
Winthrop Chem. Co., New York	E	127
Wocher & Son Co., The Max, Cincinnati	I	229
Wood & Co. Division, Wm., Williams & Wilkins Co., Baltimore	D	86
Wright & Co., Inc., E. T., Rockland, Mass.	B	16
Wyeth & Bro., Inc., Jno., Philadelphia	B	15
Zimmer Mfg. Co., Warsaw, Ind.	F	143

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THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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Please send in promptly notice of change of address, giving both old and new; always state whether the change is temporary or permanent. Such notice should mention all journals received from this office. Important information regarding contributions will be found on second advertising page following reading matter.

SATURDAY, APRIL 11, 1936

THE KANSAS CITY SESSION

In this issue of THE JOURNAL appears the usual advance information relative to the annual session of the American Medical Association, which is held this year in Kansas City, May 11-15. The physicians of the Kansas City area have for some years established an enviable reputation for efficiency in the management of medical sessions and for hospitality toward the stranger within their gates. The prospects for the Kansas City session indicate that this reputation will be enhanced and multiplied manyfold by the results of the first session of the American Medical Association to be held in Kansas City. Public officials, the hospitals, the medical profession and the community generally are all contributing their utmost to insure the complete success of this occasion. The professions of both Kansas and Missouri are enthusiastically interested. A local committee on arrangements has been developed so completely that members of the local profession are intimately associated with every one of the activities of the convention week.

Last week the reports of the officers and trustees of the Association were made available in THE JOURNAL. A special feature was the publication in boldface type of summaries to each of the sections of the reports. These were planned so that physicians generally might be aware of the numerous problems in the field of legislation, social welfare, economics and medical science which form the concern of the official bodies of the Association. No doubt many of these problems will receive special consideration by the House of Delegates at the Kansas City session.

Attention is called to the opening general meeting, at which there will be not only the addresses of the officers of the Association but also announcements by the governors of Missouri and Kansas and by representatives of local medical organizations. The general clinical meetings, which have in the past few years attracted thousands of physicians, include on this occasion two notable representatives from abroad—Lord Horder and Afranio do Amaral—and clinicians chosen to give authoritative reviews in medical progress in many fields of current interest. The section programs include other distinguished visitors from foreign countries.

The list of entertainments indicates the greatest number of alumni and fraternity dinners and luncheons officially scheduled for any annual session. Moreover, the entertainment committee has scheduled golf tournaments and skeet and trap shooting tournaments on an ample scale.

The programs of the scientific sessions which are here included and the detailed announcements of the Scientific Exhibit speak for themselves. Especially interesting, however, are the symposiums scheduled in the sections and the special exhibits on traffic accidents, fractures, diabetes and other special topics, developed under the control of the exhibit committee of the Association.

The arrangements for women include not only special sessions of women's medical organizations but also an extensive program for the Woman's Auxiliary.

The new auditorium which Kansas City has built for the holding of conventions is closely adjacent to the excellent hotels and provides under one roof accommodations for practically all the activities of the session. The pictures of the auditorium that accompany the special article are but a slight indication of its beauty, its comfort, and the other modern qualities which it provides. Kansas City is the key city of the Southwest. The session will therefore attract many physicians who are not regularly attendant on annual sessions of the Association held in the East, in the North or in the Far West. The climate of Kansas City in May is salubrious. Physicians who have made regular attendance on the annual sessions of the American Medical Association a duty and a high point in their medical lives have come to realize the great significance of these sessions in individual medical advancement.

RESEARCH ON THE GONOCOCCUS AND GONOCOCCIC INFECTIONS

The report of a special committee appointed to investigate the present status of research on the gonococcus and gonococcic infections has been recently released.[1] The two years of study from 1933 to 1935 were aimed at (1) ascertaining the amount, quality and trend of investigation on the gonococcus and the diseases it causes, (2) analyzing and correlating information derived from publications and interviews in order to evaluate accomplishments and to discover promising lines of research, and (3) assisting in laying a basis for the solicitation of financial support commensurate with the biologic, medical, social and economic importance of the subject. Some indication at least of the present

1. Thomas, Ruth B., and Rayne-Jones, Stanhope: Report of the Committee for Survey of Research on the Gonococcus and Gonococcal Infections, Am. J. Syph., Gonor. & Ven. Dis. (supp.) 20:9 (Jan.) 1936.

state of knowledge concerning the gonococcus and gonococcic infections and of the problems that are engaging the attention of investigators in laboratories, clinics and private practice has been made. As part of its work a list of the persons in the United States who have been studying the gonococcus during the last few years has been recorded. This list is not yet complete and has therefore not been reproduced with the report. The individual names in the list number 180. Not all are doing fundamental or important work on the gonococcus and gonococcic infections, but a number of the studies have resulted in definite gains in knowledge. No estimate of the amount of money now being expended on these investigations could be attempted. The evidence, however, was that, with few exceptions, the available money is scattered in relatively ineffective small sums. There are few if any large appropriations of funds for the support of research on the gonococcus.

A review of the literature indicates that much confusion of thought on many phases of the problem still exists in spite of every effort to achieve lucidity and coherence. Much of the literature expresses results or conclusions founded on work that is poorly controlled. In this respect, according to the report, the clinical studies rank on the whole below those carried out in the laboratory. Even though the available factors are more susceptible to control in laboratory studies than in those made on man, there is no apparent reason why the same quality of intelligence cannot be applied to the two fields. The writers of the report evidently felt that this is only exceptionally the case. They also concluded that, while the number of papers on this subject is voluminous, many of them are superfluous and merely serve to confuse the more important issues. Negative or inconclusive results are not so likely to be published as those which are considered positive; hence many workers who evaluate their results by exacting standards tend to publish their reports less frequently than those with a less well developed critical sense.

Some studies, especialy those relating to methods of therapy, are financed by commercial establishments that may have an interest in the product on trial. Under these circumstances, completely objective evaluation of the results is unusually difficult.

Unsolved problems worthy of investigation exist in almost every section of the field. Two fundamental problems the solution of which would appear to lead to the greatest progress are (1) further clarification of the biochemical nature of the gonococcus and the products of its metabolism and (2) the production in animals of gonococcic infections similar to those found in human beings. These two fundamental problems have subdivisions each of which could well serve for the concentrated study of large groups. The answer to the first problem might enable a better understanding of the mechanism of the production and the chemical nature of toxins. It might also provide a rational method of preparation of vaccines and antigens as well as the possible development of therapeutic methods not yet perceived. The second question is if anything more important in that it would allow certain features of the infection to be more clearly understood. Among the more important of these are the limits of the incubation period, the variations of virulence of different strains, the mechanism of invasion, the mechanism of pathogenicity, the variations of individual resistance, the factors of immunity, and the accurate evaluation of therapeutic and prophylactic measures.

Periodic reviews of the status of a problem or a group of problems helps to avoid a vast amount of unnecessary repetitious or uncritical work. All those interested in any of the research problems connected with the gonococcus should carefully familiarize themselves with this report.

POTENCY OF ANTIANEMIC PREPARATIONS

The establishing of comparative potency of preparations of liver and stomach used in the treatment of pernicious anemia is difficult. Recently, after extensive consideration, the Council on Pharmacy and Chemistry [1] developed standards that will permit direct comparison of the antianemic potency of such products; these standards are based on the reticulocyte production resulting from daily administration of the extract under test to patients in exacerbation. Because of the difficulty in applying these clinical tests, insufficient time has thus far elapsed to establish the potency of all the antianemic products in New and Nonofficial Remedies; it is expected that this will be accomplished in the near future.

The amount of liver employed in manufacturing a given amount of extract is of little importance compared to the potency per given weight or volume of the final extract. However, until the Council established its new standards the only method available to indicate potency was to state the amount of liver from which the product was derived; this, of course, led to wide divergence in many cases between the assumed and the actual antianemic effectiveness. This was particularly the case with products made by new methods (for instance, autolysis) which were claimed to enhance the potency. Contrary to such claims, products made by autolysis were found by Castle and Strauss [2] to be less active than the amount of liver from which they were derived. This led to controversy over the value of autolyzed liver preparations in the treatment of pernicious anemia.

Elsewhere in this issue is an article by Klumpp [3] reporting results that confirm the essential observations

1. Standardization and Labeling of Liver and Stomach Preparations for Use in the Treatment of Pernicious Anemia, Report of the Council on Pharmacy and Chemistry, J. A. M. A. **105**:1269 (Oct. 19) 1935.
2. Castle, W. B., and Strauss, M. B.: Effect of Autolysis on Potency of Liver in Treatment of Pernicious Anemia, J. A. M. A. **104**:798 (March 9) 1935.
3. Klumpp, T. G.: The Treatment of Pernicious Anemia with Autolyzed Liver Concentrate, this issue, p. 1245.

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of Castle and Strauss and indicate the amounts of the autolyzed product necessary to initiate remission and to maintain a normal erythrocyte level in pernicious anemia. Klumpp concludes from his studies that an amount of the autolyzed preparation derived from a given amount of liver is more potent than the amount of liver extract made in the usual manner (without autolysis) derived from the same amount of liver. The evidence for this claim does not appear to be conclusive. Even granting the validity of Klumpp's conclusion, this does not mean that gram for gram of the final preparation the autolyzed preparation is more potent than the ordinary extract. The contrary is the case, as the process of making the autolyzed product is such that the material obtained from a given amount of liver weighs more than three times as much as the extract. The foregoing illustrates the confusion that is possible in estimating comparative antianemic potencies and emphasizes the necessity for standards such as the Council on Pharmacy and Chemistry has devised.

The activity of a given amount of the final product is the important consideration in the therapeutic use of an antianemic preparation; the amount of raw material used in its manufacture is a secondary consideration which concerns chiefly the efficiency of the process employed and thus in some cases the cost of the final material.

Current Comment

VITAMIN C AND CHLOROPHYLL

Several years ago it was pointed out [1] that there is in general a parallelism between the distribution of vitamin C and that of chlorophyll and perhaps other plant pigments. The green portions of plants were especially excellent sources of cevitamic (ascorbic) acid. Recently [2] a further study of this relationship has been made. Guinea-pigs fed a basal scurvy-producing ration were given as a supplement either the green leaves, the colorless leaves or the roots of certain plants, including carrot, turnip, endive, lettuce, onion and beet. The effect of the various supplements on the body weight, the appearance of hemorrhages at the joints, loosening of teeth, hemoglobin and erythrocyte content of the blood, and the cevitamic acid content of certain organs at necropsy was determined. In addition, the cevitamic acid content of the supplements was determined chemically by titration with 2-6-dichlorophenol-indophenol. In every instance the vitamin C content of the chlorophyll-containing portion of the plant exceeded by as much as ten times that of the colorless portions or the roots. The biologic responses likewise agreed with these results. Animals receiving the chlorophyll-containing portions of the plants remained normal, whereas those fed the same amounts of the nonchlorophyll containing portions or roots developed typical symptoms of scurvy. There was a progressive decline of body weight, development of hemorrhages at the joints, loosening of the teeth and a marked lowering of the hemoglobin content and number of erythrocytes in the blood. Analyses of the vitamin C content of the tissues of the animals at necropsy yielded confirmatory information. The organs, particularly the suprarenals, of the guinea-pigs fed the nonpigmented plant supplement showed a distinctly lower cevitamic acid content than did those of the animals receiving the chlorophyll-containing supplement.

1. Bessey, O. A., and King, C. G.: The Distribution of Vitamin C in Plant and Animal Tissues and Its Determination, J. Biol. Chem. **103**: 687 (Dec.) 1933.
2. Randoin, L.; Giroud, A., and Leblond, C. P.: Recherches biologiques et biochimiques sur la teneur en acid ascorbique des tissus chlorophylliens et achlorophylliens, Bull. Soc. chim. biol. **17**: 1649 (Dec.) 1935.

THE NORMAL RANGE OF THE LEUKOCYTE COUNT

The variation in the peripheral blood leukocyte count has been widely recognized, especially since the study of Sabin and her collaborators.[1] That classic study, however, was published in 1925, and much of its force has been dissipated in the intervening time. The principal conclusions reached were that there is a characteristic rhythm of the total white blood cells with an interval of approximately an hour's duration; the total number of the cells varies in the proportion of 1 to 2; it is increased in the afternoon, regardless of whether or not food has been taken, and the entire increase is the result of an increase in the number of the neutrophilic leukocytes. Those conclusions were based on a study of six apparently normal individuals at frequent intervals over a considerable period. The necessity of renewing and extending this work is evidenced by the recent report of Juster.[2] In beginning an investigation of chronic rheumatic heart disease he found it necessary to redetermine the range of the leukocyte count in normal subjects under standard conditions. His group consisted of eleven persons between the ages of 17 and 50. Seven females and four males were studied for a period of from eleven to ninety-eight weeks. The observations were made weekly between 10:30 a. m. and noon. Unusual physical exertion was avoided, and there was no exposure of the hands to extreme heat or cold prior to the drawing of blood. The variations of the leukocyte count when charted as a curve were strikingly similar in nine of the eleven patients. The two others were so different that they were considered abnormal in spite of the fact that there was no physical basis to account for the abnormality. These individuals were, however, in a more emotional state than the others. Of the nine patients retained as normal, all the counts were below 11,000 in the upper limit and all, with one exception, above 4,000 in the lower limit. For practical purposes, therefore, the normal range of the leukocyte count is between 4,000 and 9,000, a ratio of 1 to 2 and similar to that found by Sabin and others. The curves did not show any individual pattern but appeared to fall within two groups. The first group included seven patients, and the second group of two patients did not have as wide

1. Sabin, Florence R.; Cunningham, R. S.; Doan, C. A., and Kindwall, C. A.: The Normal Rhythm of the White Blood Cells, Bull. Johns Hopkins Hosp. **37**: 14 (July) 1925.
2. Juster, I. R.: The Normal Range of the Leukocyte Count Determined Weekly Over an Extended Period, J. Lab. & Clin. Med. **21**: 376 (Jan.) 1936.

a range of variation as those in the first group. Sex, season and age within the limits of the group studied appeared to have no influence on the leukocyte count. The variations illustrated by this study offer nothing new or surprising, but they serve to confirm and emphasize the facts of variation previously known.

Association News

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Thirty-Second Annual Meeting, held in Chicago, Feb. 17 and 18, 1936 (Continued from page 1207).

DR. REGINALD FITZ, Boston, in the Chair

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

FEBRUARY 18—MORNING

What is the Social Objective of the Young Physician

DR. NATHAN B. VAN ETTEN, New York: This article appeared in full in THE JOURNAL, March 7, page 772.

Some Observations on the Social Background of Medical Practice in Great Britain

RICHARD E. SCAMMON, PH.D., Minneapolis: The information presented here is based on the experience of a number of years, of which a part of each has been spent in Britain in an attempt to study the laws governing English practice. I view the English scene through American eyes, but it should be remembered that, while many years' association with physicians has led me to take a sympathetic interest in their problems, I am a layman.

The various forms of medical practice existing side by side, recognized and unrecognized, in Britain may be listed as follows:

1. The Highlands and the Isles service is limited to the Scottish Highlands and to the string of islands along the northwest coast. It is a purely social service. It appears to be excellently administered and attracts a high type of medical graduate. These fine and sturdy people, even with the rigid practice of Scots' thrift, do not find it easy to exist. The conditions in this area strike me as resembling those in certain parts of Alaska which I have visited where any government agency dealing with medical care came to the aid of the more or less marooned population in case of an emergency.

2. The second form of free medical service is that offered by the Poor Law Medical Staff of recognized paupers. These Poor Law medical officers are estimated to have the care of something like 300,000 sick persons.

3. There still remains in some of the remote valleys of Wales a small amount of private contract form of practice, which has grown up in the isolated mining communities, quite independent of regular medical practice.

4. Insurance or panel medicine requires the full time of the practitioner. This form I judge is relatively limited and is found mainly in the "distressed areas" and the more poverty stricken portions of the great cities.

5. Panel practice employs a part of the time of the practitioner who also conducts a private practice. It is exceedingly hard to differentiate between these last two groups. In fact, physicians seem to change from one to the other under the influence of a variety of circumstances. It is generally estimated that about two fifths of the registered physicians are engaged to some extent in panel practice. Panel practice is limited to employed persons engaged in manual labor or receiving incomes of less than £250 annually. In all, perhaps two fifths of the British population are entitled to insurance through the panel system, although, as will be pointed out later, I think a considerably smaller proportion make use of it. Any physician who is on the rolls of the General Medical Council may apply for a panel. He is limited under ordinary circumstances to a maximal number of 2,500 insured patients and generally has less than a thousand. A panel physician is not required to perform all types of medical service. There is a small list of relatively minor surgical procedures which fall within his duties. But beyond this he may charge his panel patient for special services. In addition to other duties, the practitioner holding a panel is required to order medical appliances, drugs and the like, and the value and extent of these orders are adjudicated by the Panel Committee, which is made up of physicians. The panel physician must also undertake the task of certifying for sickness and disability benefits of patients under his care. The makeup of the several administrative boards under which he must work is extremely complex, including regional medical officers under the employ of the Ministry of Public Health, an advisory body which is medical in its personnel, and the approved society to which the patient must belong. The cost of the service is split about two fifths to the patient, two fifths to the employer and one fifth to the government. It is also somewhat difficult to estimate the income that the physician receives from his panel work. He is allowed 9 shillings, or between $2.25 and $2.50, a year per person on his panel. This would work out in the case of the average physicians who engages in panel practice to about $2,200 (without attempting to equate this sum into American purchasing power). It is the opinion of a number of persons, however, that the median earnings are considerably higher.

6. The sixth type of medical practice is one exactly the same as our own, in which the physician carries out the functions of his profession in the usual manner, taking private patients. Data collected by the National Health Insurance Commission over a decade ago indicates that the average income of a fairly successful practitioner, not a specialist, varied from about £1,200 to £1,400 and that his net income was perhaps in the neighborhood of £800.

7. The seventh form of medical care is that furnished by the great privately endowed hospitals, as distinct from those provided for the pauper sick. Most of the service here is purely charity work, given by men either engaged in purely private practice or in part panel and part private work. The great private hospitals of Britain seem to be encountering many difficulties in their fiscal operation. All sorts of devices have been used to augment this income.

8. The eighth and final form of recognized medical care is concerned primarily with public health and is carried out through the agency of medical officers of public health. The necessity of an adequate sanitary service is obvious.

These categories represent some of the legitimate forms of medical care. One may also list those that fall without the pale of accepted practice:

1. Irregular practitioners seem to be rather scarce in Great Britain. While a few osteopaths, chiropractors and unregistered physicians may carry out their activities, they are not obvious.

2. Druggists are said to prescribe and diagnose over the counter.

3. The sale of "patent" or proprietary medicines seems to me to be relatively small.

4. On the other hand, the wide exploitation and advertisement of so-called health or tonic foods indicates a large consumption of this pseudomedical commodity.

5. There is another form of practice almost unknown to us at the present time but, I think, very prevalent in Britain. This is folk medicine. Medical traditions and remedies, generally worthless, but handed down from generation to generation, seem in very common use among a large mass of people. Practically every cook book includes a host of so-called remedies, often for maladies that we would think required the expert physician's care.

One gains the impression that the personnel of the service for public health in Great Britain is excellent. In fact, this service, which has been built up over many years, has proved itself so efficient that public opinion is behind it and dismissals which in theory could be made at any time occur only in cases of gross inefficiency or misconduct. Since both the central government and the minor administrative units have built up a modest but sufficient annuity system, the service attracts and holds able men.

The rulings of the General Medical Council may be regarded as the basic code of the practice of medicine in the United Kingdom. Added to this are the regulations of the British

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Medical Association, which is a limited liability company not organized for profit and which lays down a still stricter code. There is a third and even stricter code maintained by the Royal College of Physicians. While a licentiate may apparently own an interest in a private hospital, this seems forbidden to members and to fellows. Likewise fellows may not enter into partnerships, may not sue for fees, may not attempt to sell their practices, and are forbidden to engage in trade.

Naturally this complex situation did not arise without a long and complicated history. Although it may seem after the passage of 400 years that the transition from the medieval to the modern system was abrupt and dramatic, the records hardly bear out this concept. A century ago the medical situation in Great Britain had become so antiquated and complicated that change seemed imperative. Health, it appears, had much improved, as had the quality of medical practice, but the conditions governing the health professions were chaotic. There were some eighteen licensing bodies with variable powers and areas of authority, some of them overlapping. The laws governing medical practice represented an accretion of some two centuries and were often in conflict. Medical teaching was at a low ebb at the great traditional universities. There were at least three classes and a number of subclasses of medical men. It is not surprising that a determined effort was made to clear this situation. The reform did not start with the universities or the older corporations of physicians or surgeons. It began primarily with the surgeon-apothecaries or general practitioners of the country, who associated themselves in various groups such as the National Association of General Practitioners and the Provincial Medical and Surgical Association, which was formed at Winchester in 1832 and which more than twenty years later became the British Medical Association. The leaders of this movement, like most persons desiring improvement in conditions, wanted a root-and-branch action sweeping away all older and traditional forms and the constitution of a quite remodeled scheme of medical education, licensure and code of practice. But this is not the British way. Select committee after select committee of parliament was appointed to inquire into the problem, bill after bill was introduced, and finally in 1858 a full quarter century after the movement had become active, the medical bill was passed. The medical act of 1858 was frankly a compromise and more than a generation passed before it became generally acceptable. It established the General Medical Council. In the meantime the Poor Laws had been reconstructed again and again. After a few years' struggle with contract practice, this form was given up in favor of an organized medical service of properly qualified men to treat the pauper sick. There had also arisen a system of voluntary medical insurance in the so-called Friendly Societies, which operated on the contract basis, under boards of lay persons, hired physicians as cheaply as possible, and did not hesitate to advertise and canvass to increase their membership. The British Medical Association contested this practice and in 1894 secured an inquiry which resulted in a declaration that it was unprofessional for a registered physician to be associated with a canvassing institution. Still these organizations continued to operate until the passage of the Medical Insurance Act of 1911.

It is difficult to give an accurate account of the establishment of the National Insurance Act, or the panel system. It occurred in that peculiar phase of English history stretching from 1908 to 1914, which George Dangerfield has just described in his book "The Strange Death of Liberal England." All sorts of changes, social, political and economic, were in the air. The plan was proposed by the chancellor of the exchequer, who after a two months study of the German insurance system—in an interval when, according to his own statements, he was harassed with the possibility of war—outlined the National Insurance Act, which was soon coupled with the Unemployment Insurance Act sponsored by Mr. Winston Churchill. The original form was close to the German one, but a determined resistance by the medical profession led by the British Medical Association resulted in profound modifications. The Health Insurance Act became law in 1911, but more than twenty amendments of it have been passed in the quarter century of its existence.

The British Medical Association has played an important part in all health matters in Britain. Most of the numerous modifications of the insurance act that have protected and improved the lot of the physician in panel practice are the outcome of its activities. The association has insisted on a high professional code among its members and it seems to have been extremely successful in maintaining this code. Finally, the association has succeeded, in an effort extending through generations, in raising the social status of the medical practitioner to an entirely new level. In military life it has made the physician an officer and a gentleman and in civil life a gentleman and a person of respect.

DISCUSSION

DR. WILBURT C. DAVISON, Durham, N. C.: There are two reasons for the difference in the situation in England and the situation here; first, the size of the country. After all, England is only as big as North Carolina, and the population is much more uniform. I think it was said by General Cumming at one time, when some of the British were criticizing some of the health conditions in this country, that if we had a country as small as Great Britain we would take it out and whitewash it every morning. Second, the difference in the character of the people. Not only do they differ from our people in being much more uniform, but through the last eighty years there has been a tremendous effort on the part of the General Medical Council to bring out an appreciation of the differences in medical practitioners. There are about five different degrees in England. There is the L.S.A., Licentiate of the Society of Apothecaries, the lowest medical degree, and the British recognize that if they have a sore throat they may call in a Licentiate of the Society of Apothecaries but, on the other hand, if they have a dangerous illness they realize that they must call in a practitioner with a higher degree. Then there is L.R.C.P. and L.R.C.S., then the Bachelor of Medicine of London or Oxford or Cambridge; the M.D., a degree granted some years later, and then the Fellowship in the Royal College of Physicians and Royal College of Surgeons, and the people recognize the difference in those different groups. Also, they realize that a man's hospital affiliations give some index of his ability. That is, if a man in London is on the consulting staff of St. Bartholemew's Hospital or St. Thomas's Hospital he commands respect much more than a man who has no hospital affiliation. A third factor is the fact that the medical profession in England comes almost entirely from the upper middle class. In this country any one can study medicine provided he can borrow or work his way through medical school. In England that is not possible except in extreme instances. In this country we have a larger number of better physicians because we are drawing from a much wider group of society. On the other hand, it probably means that we have a fair number of worse physicians, whereas the English average is much more uniform. The two types of medical practice that have been talked about a good deal as being applicable in this country are the panel system and the system of contributory hospital schemes or hospital insurance. I was a medical student in England three years and was there at the time the panel system started. It was unsuccessful the first two years, but at present most of the physicians I know operating under the panel system are satisfied with it. They have eradicated many of the difficultics and made many improvements, and I think it is certainly to the advantage of the public and to the medical profession to have this panel system; but whether that would work in this country is an entirely different problem. I doubt that it would. One of the reasons for the success of the panel system, in addition to the uniformity of the profession and the authority of the General Medical Council to iron out difficulties, is the fact that the people themselves started the panel system through the friendly societies. They got together and contributed a certain amount a week to get medical care they were unable to purchase otherwise. The same thing is true of the voluntary hospital insurance plan. The people themselves, through their parishes or through their employees, organized and contributed voluntarily to get hospital care. In this country I doubt very much whether such a voluntary movement would be possible. One interesting situation is the thing going on in the bigger cities. The contributors' schemes are helping such hospitals as St. Bartholomew's and St. Thomas's but are not completely covering the situation, so it has been necessary for the London County Council to establish charity hospitals or county hospitals similar

to Cook County Hospital here or Bellevue in New York, and many of the patients not able to finance themselves through contributors' schemes are going to the county hospitals. They are presenting great difficulties to the British medical schools. The schools there haven't shown the same disposition to affiliate with the charity hospitals as the schools in America have.

Instruction of Students and Interns in the Legal, Social and Economic Influences Affecting Medical Practice

DR. STANHOPE BAYNE-JONES, New Haven, Conn: This article will be published in full in the *American Medical Association Bulletin*.

The Present Curriculum and the Aims of Medical Education: Are They Compatible?

DR. LANGLEY PORTER, San Francisco: Too little acquaintance with living forces that are changing the social order before our eyes and too great devotion to sifting out the few grains of worth from the chaff of dead bibliographies are but two among many handicaps that are loaded on the student.

Can the curriculum be purged of the rests and residues and be recast so that it will equip men to meet the medical service needs of the modern community? Can the course in medicine be improved so that the student is trained to understand all things needed to protect health and to prevent disease in individuals and communities? If such aims are to be accomplished, the medical schools must be prepared to train four types of graduates. The first group consists of men whose temperaments and aptitudes fit them to replace the vanishing general practitioner; men able to administer all available medical services to individuals and to families. Second, every medical school should be prepared to train a part of its student body to engage in public health activities. A third obligation that rests on the medical school concerns its duty to provide a limited number of well trained specialists and to revise present conceptions about what constitute proper and legitimate fields for specialization. Today by far too large a proportion of medical men are specializing in very narrow fields. Finally, it is of the utmost importance that the need for highly trained investigators and teachers be remembered. Whether the students are to be practitioners, health officers, specialists or investigators, their student life should be passed in close companionship and they should be guided by the hope to achieve a pattern expressed in a schedule of studies that emphasizes principles rather than details; that points out opportunities and awakens interest and enthusiasm; that illuminates the unities of medicine and minimizes the values of factual knowledge if unrelated to great integrating principles.

To carry out its proper functions, the medical school must be prepared to produce, in proper proportions, recruits for each of these proposed groups; and the schedule of studies in the curriculum must reflect the philosophy behind the plan and the ability to carry it out. Certainly a curriculum representing a mosaic of independent specialist courses does not, nor can it, reflect such a philosophy; nor is it likely to guide students to the opportunities that can best be used to form the background essential to the creation of great medical practitioners.

Among the residues that hamper improvement in medical training, hardly any is more deplorable than the semester system. This holdover from the organization of grammar school teaching may be popular with instructors who like to reserve one semester entirely for their own research work, but in practice the result too often is that the student's time is wasted, and the man who desires to repeat certain work is dissuaded from doing so because of the long wait imposed on him. Often the resulting lack of preparation handicaps him so that later he abandons medicine or, managing to get by, he remains mediocre. Another unfortunate residue, less common than formerly, is the idea that one department in the medical school can carry on its work without relation to the teaching of another.

Of what value are the misnamed "preclinical" sciences to medicine unless the physician can bring them to the clinic, to the bedside? How is the student to be taught that the unfortunate distinction formerly made between laboratory studies and physical examinations is heretical—that it is another "residue" left over from the days when the so-called preclinical man and the ward-walking physician misapprehended and disliked each other? How can the student be made to see that laboratory examinations alone are no more scientific, no more revealing, than the facts to be gathered from sight, sound, touch and smell? The neophyte arrives at the idea slowly. Often he does not get it at all, and so he comes to estimate laboratory observations as a sort of magic, infallible and contradictory of all other observations, even of common sense, or else to regard them as a useless burden to be avoided even, if need be, by dishonest expedients.

The primary error behind this weakness was laid long ago when increasing factual detail made it expedient that the old Chair, then known as the "Institutes of Medicine," be divided into anatomy, physiology and biochemistry; and it was exaggerated when ever increasing new facts brought new subjects that it was felt had to be included in the curriculum, until today every student is taught by a score of specialists, each armed with his own textbook and journal, and each, when examination time comes, demanding that the student prove himself almost as much a master in his special field as is the master himself.

It may be that what is needed is a plan for medical education in which the total hours available are treated as a single course, a course in medicine which attempts to integrate all the sciences and arts utilizable in practice and which aims to produce a total based on a pattern of guiding motifs which will appear in the very beginning of premedical education and be carried through until the completion of the student intern year. The major guiding motifs would naturally be physiology and pathology. Psychology, economics and sociology would be essential.

Through the clinicopathologic conference, a most important link between the fundamental and the medical sciences has been maintained, to the enrichment of the art of medicine. In some schools this has been followed by elevating clinical anatomy above its former didactic position and advancing it to a point at which the anatomist makes ward rounds with the surgeon. He is ready to consult with him on problems involving anatomic knowledge, and his laboratory is available to provide dissection material. He is ready to confer with and advise such of the students and staff as need exercise in anatomy. In some schools the same sort of arrangement is being opened to biochemists, physiologists and bacteriologists, that they may cooperate with medical, pediatric and obstetric teachers and clinicians in ways that are stimulating and fruitful. The same sort of integration is being applied to the study of special or complicated subjects. Men from all departments interested, who can bring special knowledge to bear in the intricate problems concerned, are constituted into committees which confer and discuss the important implications in open sessions. Such developments are bound to reflect themselves in curricular changes. May it not be that the time has come to go over the top, to follow more dynamic plans of campaign strategy?

DISCUSSION

DR. JOHN WYCKOFF, New York: Dr. Porter has asked a question, and I wonder whether the question can be answered. Surely there is no such thing as a single curriculum. I wonder if there should be such a thing as a single curriculum. Must not curriculums always be individual things? The discussion this morning has pointed out that the scope of medical education has enlarged. After all, doesn't a curriculum depend on three sets of bearings? First, there is the student's preparation before he comes to medical school; second, the changes which we have been discussing today, the changes in medicine; and third, the changes in his education after he leaves medical school. Consequently, in order to meet these variables, a curriculum must be constantly changing. In each school a curriculum must modify itself continuously, depending on changes in its physical facilities and changes in its personnel, and unless a school is constantly conscious of the fact that these facilities are changing, that certain members of the faculty are growing older, that there are certain changes being made in the faculty, that the curriculum cannot be the best curriculum there may be in that particular institution. The greatest fault in the making of a medical school curriculum is the tendency of one institution to copy the curriculum of another institution, because of the fact that our institutions are in different places, that we have different relationships. Dr. Porter spoke of the semester system.

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Of course, the putting of subjects into compartments is the thing which all of us have to fight. However, it seems to me there is not much more difficulty when a block system is used than when a course may extend over two and one-half years.

There is a point that I should like to stress: It seems to me that in every curriculum there should be an effort to put increased responsibility progressively on the students of medicine. I can think of no profession that has to carry the responsibility that the physician has to carry. The intern, on the day he enters the hospital, has to take over a load of responsibility, and unless we take a good deal of care, I think our curriculums are apt to be so arranged that our student is not given such responsibility, and certainly he cannot learn responsibility by precept, he must learn it from practice. Of course, if a curriculum is going to be a changing thing there must be some type of an organization, as Dr. Porter has said, to supervise it. Here I believe there should not be one single guide. I think that depends on the institution. In some institutions it may be a benevolent despot. In other institutions it may be a wideawake committee. There is one thing it should not be, and that is a committee which is simply made up of certain officers in the institution; that is, it should not be a committee which is simply made up of department heads, because when a curriculum committee is made up that way there is danger of its becoming frozen, and the curriculum is not a living thing as we would like to have it.

DR. S. P. LUCIA, San Francisco: Just a remark in relation to Dean Wyckoff's remarks. We do not wish that a curriculum will be fixed, that it might be used in other medical schools. The principles under which a good curriculum is operating, or on which it is built, deals with fundamentals. We have stressed fundamentals. We have gone so far in our curriculum as to make it necessary for the members of the fundamental classes, preclinical members, to be present on a ward round. We have abolished the didactic teaching in the third year. Our students enter the wards. After the completion of the second year they are turned loose, so to speak, to learn their medicine first hand. Dean Porter chose a junior department member to be chairman of the curriculum committee. Then he chose young bloods to compose that curriculum committee. I think there would be considerable difficulty if the heads of departments, for instance, composed the curriculum committee.

RADIO BROADCASTS

The American Medical Association broadcasts over WEAF, the Red network instead of the Blue, as formerly, and certain additional stations of the National Broadcasting Company at 5 p. m. eastern standard time (4 o'clock central standard time, 3 o'clock mountain time, 2 o'clock Pacific time) each Tuesday, presenting a dramatized program with incidental music under the general theme of "Medical Emergencies and How They Are Met." The title of the program is "Your Health." The program is recognizable by a musical salutation through which the voice of the announcer offers the toast "Ladies and gentlemen, your health!" The theme of the program is repeated each week in the opening announcement, which informs the listener that the same medical knowledge and the same doctors that are mobilized for the meeting of grave medical emergencies are available in every community, day and night, for the promotion of the health of the people. Each program will include a brief talk dealing with the central theme of the individual broadcast.

Red Network.—The stations on the Red network of the National Broadcasting Company are WEAF, WEEI, WTIC, WJAR, WTAG, WCSH, KYW, WFBR, WRC, WGY, WBEN, WCAE, WTAM, WWJ, WMAQ, KSD, WHO, WOW, WDAF.

Pacific Network.—The stations on the Pacific network are KGO, KPO, KFI, KGW, KOMO, KHQ, KFSD, KTAR.

Network programs are broadcast locally or omitted at the discretion of the local station. The lists indicate stations to which programs are available.

The next three programs are as follows:

April 14. Summer Camps, Morris Fishbein, M.D.
April 21. Health and the School, Morris Fishbein, M.D.
April 28. Infant Care, W. W. Bauer, M.D.

BROADCASTS FROM THE KANSAS CITY SESSION

Special radio programs will be broadcast from Kansas City during the week of the annual session.

NATIONAL BROADCASTING COMPANY

The following programs will be delivered over a network of the National Broadcasting Company:

An interview about the Scientific Exhibit with Dr. Morris Fishbein. Fifteen minutes. Date to be announced.

Address by Dr. James Tate Mason, President of the American Medical Association. Fifteen minutes. Date to be announced.

May 12, 4 p. m.: The regular dramatized program Your Health (originating in Chicago), based on papers or exhibits presented at the convention. Thirty minutes.

COLUMBIA BROADCASTING SYSTEM

The following programs will be broadcast over a network of the Columbia Broadcasting System:

May 11, 1:30 p. m.: An interview with one or more distinguished foreign visitors by Dr. Morris Fishbein. Subject to be announced. Fifteen minutes.

May 15, 2 p. m.: A news broadcast outlining the main events of the convention. Dr. W. W. Bauer. Fifteen minutes.

A dramatized program (originating in Chicago), based on papers or exhibits presented at the convention. Thirty minutes.

The hour given is central standard time; eastern standard time is one hour later, mountain time one hour earlier, and Pacific time two hours earlier. Where date and time are not specified, an announcement will be made later.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

State Medical Meeting at Montgomery.—The Medical Association of the State of Alabama will hold its annual meeting in Montgomery, April 21-23, with headquarters at the Jefferson Davis Hotel and under the presidency of Dr. Charles A. Thigpen, Montgomery. The program will be presented by the following:

Dr. Edward W. Peterson, New York, Appendicitis in Infancy and the Younger Group of Children.
Dr. Fred W. Rankin, Lexington, Ky., Modern Management of Organic Lesions of the Colon and Rectum.
Dr. Edgar Burns, New Orleans, Surgery of the Prostate.
Dr. Carl H. Davis, Milwaukee, motion picture demonstrations, Normal Labor and Use of Forceps.
Dr. Willis C. Campbell, Memphis, Physiologic Principles Applied to the Treatment of Fractures.
Dr. Andrew B. Rivers, Rochester, Minn., Etiology, Pathology and Treatment of Peptic Ulcer.
Dr. Walter E. Dandy, Baltimore, Diagnosis and Treatment of Brain Tumors.
Dr. John H. Musser, New Orleans, Abdominal Pain Due to Extra-Abdominal Conditions.
Dr. Edward C. Ellett, Memphis, Ocular Tuberculosis.
Dr. William D. Haggard, Nashville, Recent Developments in the Study and Surgery of Goiter.

Dr. William D. Partlow, superintendent of the Alabama Insane Hospitals, Tuscaloosa, will deliver the Jerome Cochran Lecture on "The Debt the World Owes to Medical Science." A public meeting will be held Wednesday evening. Dr. Thomas Parran Jr., surgeon general, U. S. Public Health Service, will discuss "The Next Achievement in Public Health," and Dr. William W. Bauer, director, Bureau of Health and Public Instruction, American Medical Association, Chicago, "Popular Beliefs That Are Not So."

CALIFORNIA

Department of Public Health Issues Handbook.—Under the editorship of Dr. Paul J. Hanzlik the Department of Public Health of the City and County of San Francisco has issued a handbook of "Accepted Remedies, Symptoms and Treatment of Poisoning: Diagnostic Procedures and Miscellaneous Information," to be used by physicians and others employed in city

and county institutions. The remedies recommended are limited largely to those in the U. S. Pharmacopeia, National Formulary, New and Nonofficial Remedies and to accepted dental remedies. It is anticipated that these limitations will do much to lower the drug bills of the institutions concerned.

Medicodental Meeting.—A joint session of the Los Angeles County Medical Association and the Los Angeles County Dental Society will be held at the headquarters of the medical society, Los Angeles, April 14. The following speakers will present the program:

David W. McLean, D.D.S., Mechanical Causes of Dental Pathology.
Dr. Lewis Gunther, General Concepts of Calcium Metabolism.
Dr. John Martin Askey, Misconceptions of Calcium Metabolism.
Dr. Samuel J. Glass, Endocrine Aspects of Some Dental Abnormalities.
Julie Endelman, D.D.S., A Plea for a More Thorough Medicodental Cooperation.

Society News.—Dr. Charles F. McCuskey, Los Angeles, read a paper entitled "Anesthesia and Anesthetics" before the Santa Barbara County Medical Society, February 10.——At a meeting of the Alameda County Medical Association, Oakland, March 16, speakers included Drs. Judith Ahlem on common factors in minor psychoses and William F. Holcomb, osteomyelitis.——Dr. Ernest M. Hall, Los Angeles, discussed "The Adrenals—A Clinical and Pathological Study" before the San Diego County Medical Society, March 10.——The San Francisco County Medical Society will be addressed April 14 by Drs. William J. Kerr on "Geographic Distribution of Endemic Goiter in the United States," and Jay Marion Read, "Relationship of Exophthalmic Goiter to Endemic Goiter."

CONNECTICUT

Memorial Services for Dr. Mendel.—Services commemorating the late Lafayette Benedict Mendel, Ph.D., Sterling professor of physiologic chemistry, Yale University School of Medicine, New Haven, will be held at Strathcona Hall, Yale University, April 16. Speakers will include James Rowland Angell, LL.D., president of the university, who will preside, Russell Henry Chittenden, Sc.D., New Haven, Frederic Collin Walcott, D.Sc., Norfolk, and Dr. Phoebus Aaron T. Levene, New York.

FLORIDA

Personal.—Dr. Julius C. Davis, Quincy, has been appointed a member of the state board of medical examiners, succeeding Dr. Eugene G. Peek, Ocala.

Radio Symposium on Medical Economics.—The committee on public relations of the Florida Medical Association began a weekly radio program of lectures on medical economics, March 1. The following physicians are participating: John S. Tuberville, Century; George C. Tillman, Gainesville; Homer L. Pearson Jr., Miami; Orion O. Feaster, St. Petersburg; Calvin D. Christ, Orlando; Herbert L. Bryans, Pensacola; Thomas H. Bates, Lake City; William H. Spiers, Orlando; Edward Jelks, Jacksonville; Thomas M. Palmer, Jacksonville, and James Ralston Wells, Daytona Beach.

GEORGIA

Georgia University News.—Dr. George Lombard Kelly, Augusta, dean, University of Georgia School of Medicine, was appointed superintendent of the University Hospital by the board of trustees at a meeting, March 12, effective April 1. Carl G. Hartman, Ph.D., Baltimore, addressed the Louis A. Dugas Journal Club of the university, March 16, on "The Physiology of Menstruation." Construction of a new laboratory building on the campus of the medical school at a cost of $75,000 will begin in the near future.

State Medical Meeting at Savannah, April 21-24.—The Medical Association of Georgia will convene in Savannah for its annual session, April 21-24, under the presidency of Dr. James E. Paullin, Atlanta, with headquarters at the DeSoto Hotel. A public meeting Wednesday evening will be addressed by Drs. Arthur M. Shipley, Baltimore, on "The Problem of the Diaphragm"; James S. McLester, Birmingham, Ala., President, American Medical Association, "Influence of the Present Day Depression upon the Nutritive State of the American People," and Jonathan C. Meakins, Montreal, "Management of the Chronic Heart." Dr. William Bosworth Castle, associate professor of medicine, Harvard Medical School, Boston, will deliver the Abner Wellborn Calhoun Lecture, Wednesday noon, on "Fundamental Aspects of the Diagnosis and Treatment of Anemia." A symposium on the thyroid and parathyroid problems will be presented by Drs. Thomas C. Davison, James Gaston Gay and Benjamin Hill Clifton, all of Atlanta, and John Reid Broderick, Savannah. In addition, the following physicians will speak, among others:

William Edward Storey, Columbus, The Dilution and Concentration Tests of Kidney Function.
Joseph D. Gray, Augusta, Primary Bronchial Carcinoma.
Hal M. Davison, Atlanta, Chronic Arthritis and Fibrositis.
Millard E. Winchester, Brunswick, Use of Atabrine in the Control and Treatment of Malaria.
James R. McCord, Atlanta, Conservative Obstetrics Will Materially Lower the Mortality Rate in Eclampsia.
Thomas F. Abercrombie, Atlanta, Public Health Problems in Georgia.
Howard J. Morrison, Savannah, Antitoxin Treatment of Meningococcic Infections and Meningitis.
William A. Smith, Atlanta, Treatment of Myasthenia Gravis.
John Calvin Weaver, Atlanta, Hemorrhages of the Brain: Their Differentiation and Treatment.

The annual banquet will be Thursday evening with Dr. Cornelius F. Holton, Savannah, as toastmaster. Entertainment will include golf, fishing and a trap shooting tournament. The woman's auxiliary will hold its annual meeting at the Hotel Savannah, April 21-23.

ILLINOIS

Society News.—Dr. Paul C. Schnoebelen, St. Louis, addressed the Madison County Medical Society in Highland, March 6, on bone tumors, and Dr. Leith H. Slocumb, St. Louis, rectal diseases and their treatment.——Dr. Roland M. Klemme, St. Louis, addressed the Vermilion County Medical Society, March 3, on "Traumatic Injuries of the Central Nervous System and Their Emergency Treatment."——Dr. John A. Wolfer, Chicago, addressed the Peoria City Medical Society, March 17, on "Carcinoma of the Rectum and Colon."——At a meeting of the Kankakee County Medical Society in Kankakee, March 12, Dr. Louis W. Sauer, Evanston, discussed whooping cough.

Chicago

Department of Neurology Created.—Dr. Eric Oldberg, acting head of the department of surgery, University of Illinois College of Medicine, since the death of Dr. Carl A. Hedblom in 1934, has been appointed professor and head of a newly created department of neurology and neurologic surgery, effective September 1. Dr. Oldberg, who is 34 years old, graduated from Northwestern University School of Medicine in 1928.

Society News.—At a meeting of the Chicago Surgical Society, April 3, speakers included Drs. Robert B. Malcolm on "Surgery of Salivary Glands"; Graham A. Kernwein, "Effect of Starvation on Fracture Healing," and Sumner L. S. Koch, "Osteomyelitis of the Bones of the Hand."——Dr. Mary G. Schroeder discussed "The Diagnosis and Treatment of Psychoneurosis" before the Chicago Council of Medical Women, April 3.——The Chicago Laryngological and Otological Society devoted its meeting, April 6, to a symposium on pathology.——At a meeting of the Chicago Gynecological Society, April 17, Dr. Elmer L. Sevringhaus, Madison, Wis., will discuss "Current Endocrine Problems in Gynecology" and "A Study of Women with Irregularities of Menstruation"; Carl R. Moore, Ph.D., of the University of Chicago, and Dr. Ralph E. Campbell of the University of Wisconsin Medical School, Madison, will discuss these papers.

Lectures on Psychoanalysis.—The Institute for Psychoanalysis of Chicago announces the following lectures and seminars during its third quarter of the current year:

Mortimer Adler, Ph.D., Methods and Subject Matter of Psychology.
Drs. Franz G. Alexander and Thomas M. French, alternately, Psychoanalytic Interpretation of Psychotic Cases.

For the members of the Chicago Psychoanalytic Society and the candidates of the institute only, the following is offered:

Dr. Alexander, Clinical Conferences.
Dr. Alexander, Termination of Analyses (seminar on technic).
Dr. French, Seminar on Review of Psychoanalytic Literature.

Registration for the courses should be made in advance. Fees vary for the courses. The first session began April 4, but new courses are scheduled to begin in subsequent weeks, extending into June. Address the Institute for Psychoanalysis, 43 East Ohio Street, Chicago.

IOWA

Society News.—Dr. Maurice C. Howard, Omaha, gave a lecture on "Cardiac Irregularities" before the Shelby County Medical Society, February 11, in Harlan.——The Woodbury County Medical Society was addressed in Sioux City, February 12, by Dr. Robert S. Dinsmore Jr., Cleveland, on "Practical Points in the Treatment of Gallbladder Disease."——Dr. Carl H. Gellenthien, Valmora, N. M., addressed a special meeting of the Des Moines Academy of Medicine and Polk County Medical Society, March 10, on "Practical Methods of

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Sanatorium Treatment of Pulmonary Tuberculosis." A symposium on obstetrics was presented at the meeting in Des Moines, February 25; Drs. Walter E. Baker, Floyd W. Rice, Audra D. James and William O. Purdy were the speakers. ——The program of the Linn County Medical Society, April 10, was a clinic in psychiatry given by Dr. Andrew H. Woods, medical director of the Iowa State Psychopathic Hospital, Iowa City, and his staff.

KANSAS

Course in Neuropsychiatry.—The medical staff of the Menninger Clinic will conduct its second annual graduate course in neuropsychiatry in general practice, April 20-25, at the Menninger Clinic, Topeka. Guest speakers will be Drs. Israel S. Wechsler, professor of clinical neurology, Columbia University, New York; James W. Kernohan, associate professor of pathology, University of Minnesota School of Medicine, Rochester; Frederick P. Moersch, Rochester, Minn., and Harry Wilkins, associate professor of surgery, University of Oklahoma School of Medicine, Oklahoma City.

MARYLAND

Society News.—The Baltimore City Medical Society held a joint session with the Baltimore City Dental Society, March 20; a medicodental symposium was presented by Dr. Sydney R. Miller, George M. Anderson, D.D.S., and B. Lucian Brun, D.D.S.——The Baltimore County Medical Society was addressed at the University Hospital, Baltimore, March 18, by Drs. Allen F. Voshell and Edward A. Looper on physical therapy and cancer of the larynx, respectively.

Personal.—Dr. John H. Janney Jr., Annapolis, since 1931 health officer of Anne Arundel County, sailed from New York for Rumania, April 8. As a member of the Rockefeller Foundation, Dr. Janney was placed in charge of the unit in Anne Arundel County when a model health department was established there under the auspices of the foundation and the Johns Hopkins University School of Hygiene and Public Health, cooperating with the state and county health departments. The university and the foundation withdrew from the experiment in 1934, but Dr. Janney remained as health officer.

MASSACHUSETTS

Personal.—Dr. Walter B. Cannon, Boston, has been elected a member of the board of scientific directors of the Rockefeller Institute for Medical Research, New York.——Dr. Frank Fremont-Smith resigned as assistant professor of neuropathology at Harvard Medical School, February 1.

MICHIGAN

The Huber Memorial Volume.—A memorial volume to Dr. Gotthelf Carl Huber, who at the time of his death in 1934 was dean of the University of Michigan Graduate School of Medicine, is now being prepared by a committee under the direction of the dean of the medical school and the board of directors of the Alumni Association. The volume will contain scientific articles by Dr. Huber's students and co-workers, an account of his life and a complete bibliography. It will appear as a regular issue of the *Journal of Comparative Neurology* and will contain about 700 pages and 200 illustrations. Those who wish to participate in paying for this production may do so by sending a check to Dr. John T. Hodgen, Blodgett Medical Building, East Grand Rapids. The names of contributors will be recorded. Those subscribing $10 or more to the guaranty fund may secure the volume at half price.

Society News.—Dr. Albert C. Furstenberg, Ann Arbor, addressed the Calhoun County Medical Society, February 25, on "Acute Infections of the Throat and Soft Tissues of the Neck."——Dr. Bruce H. Douglas, Detroit, addressed the East Side Physicians' Association, February 27, on "Present Day Trends in Tuberculosis."——At a meeting of the Wayne County Medical Society with the Detroit Bar Association, March 16, Albert E. Meder, LL.D., Detroit, discussed the legal point of view of social security legislation, and Dr. Stanley W. Insley the medical point of view.——The Detroit Academy of Surgery was the guest of Dr. Nelson M. Percy at the Augustana Hospital, Chicago, March 14.——Dr. Irving McQuarrie, Minneapolis, discussed "Recent Studies on Etiology and Treatment of Edema in Children" before the Detroit Pediatric Society, March 4.——Dr. Frank J. Sladen, Detroit, addressed the Oakland County Medical Society in Pontiac, March 17, on arthritis.

NEVADA

Annual Registration Due May 1.—All persons holding licenses to practice medicine in Nevada are required by law to pay annually to the treasurer of the Board of Medical Examiners, on or before May 1, a tax of $2. Failure to do so operates to forfeit a licentiate's right to practice medicine, and his license to practice can be reinstated thereafter only on the payment of a $10 penalty.

NEW YORK

Institute on Vision.—The blindness prevention bureau of the New York State Department of Social Welfare sponsored an institute for the conservation of vision in cooperation with the Medical Society of the County of Westchester and local organizations at Yonkers, March 3. Physicians on the program included:

Dr. Angelo J. Smith, Yonkers, Anatomy and Physiology of the Eye.
Dr. Raymond E. Meek, New York, Nutrition in Relation to the Eyes.
Dr. Earl P. Lasher, Yonkers, Relationship of Nose and Throat Infections to the Eye.
Dr. Donald E. Tinkess, New Rochelle, Errors of Refraction.
Dr. James G. Morrissey, Yonkers, Ocular Muscle Defects.
Dr. Edward C. Wood, White Plains, The Eye in Relation to General Disease.
Dr. Laurance D. Redway, Ossining, Eye Injuries and Sympathetic Ophthalmia.

Alumni Meeting in Buffalo.—The Alumni Association of the University of Buffalo School of Medicine will present its second annual graduate clinical meeting April 18, with the following program:

Dr. Donald C. Balfour, Rochester, Minn., Problems Concerned in the Management of Lesions of the Stomach and Duodenum.
Dr. Walter C. Alvarez, Rochester, Minn., Helpful Hints in the Diagnosis of Puzzling Types of Indigestion.
Dr. Charles A. Elsberg, New York, Localization and Diagnosis of Brain Tumors by Olfactory Tests.
Dr. Nicholson J. Eastman, Baltimore, Treatment of Asphyxia Neonatorum.
Dr. Ernest E. Irons, Chicago, Chronic Arthritis, a General Disease Requiring Individualized Treatment.
Dr. Philip D. Wilson, New York, Fractures in the Region of the Elbow.
Dr. Francis F. Schwentker, Baltimore, Immunization in the Treatment of Infectious Diseases.

At the annual banquet at the Hotel Statler the speaker will be Dr. Reginald Fitz, Boston, who will present "The Biography of the Famous Dr. Watson of the Sherlock Holmes Stories."

Bills Introduced.—S. 1834 and A. 2188 propose to grant to physicians, treating persons injured through the fault of others, liens on all rights of action, claims, judgments, compromises or settlements accruing to the injured persons by reason of their injuries. S. 1893, to amend the workmen's compensation act, proposes to permit an employee injured in the course of his employment to obtain at his employer's expense such dental care as may be necessary because of the industrial injury and to permit the employee to choose a dentist from a list of approved dentists to be compiled by the industrial commissioner. The bill also proposes to add three members to the industrial council, who are to be dentists. A. 2175, to amend the law relating to certificates of birth, proposes that a certificate of birth shall contain a photograph of the fingerprints of the mother and the footprints of the child, the impression of which is to be taken as soon after the birth of the child as is practicable. S. 1812, to supplement the pharmacy practice act, proposes to prohibit the sale or other distribution of appliances, drugs or medicinal preparations intended or having special utility for the prevention of venereal diseases without a license from the state board of pharmacy authorizing such sale or distribution. The provisions of the bill, however, are not to apply to licensed physicians. The bill further prohibits the sale of such appliances, drugs or medicinal preparations unless their containers or labels specifically identify the manufacturer and unless such goods comply with standards which may be prescribed by the division of laboratories and research in the department of health. S. 1862, to amend the medical practice act, proposes to require applicants for licenses to practice medicine to be citizens of the United States. A. 2248, to amend the medical practice act, proposes, in addition to the grounds now stated in the law, to authorize the revocation of the license of a physician who (1) has employed, hired, procured or induced a person not licensed to practice medicine in the state to so practice, (2) has aided and abetted in the practice of medicine a person who is not licensed to practice medicine in the state, or (3) has advertised for patronage by means of handbills, posters, circulars, flamboyant signs, stereopticon slides, motion pictures, radio or magazines.

New York City

Harvey Lectures.—The sixth Harvey Lecture of the season will be delivered by Dr. Warren H. Lewis, professor of physiologic anatomy at Johns Hopkins University School of Medicine, Baltimore, on "Malignant Cells." The lecture will be at the New York Academy of Medicine, April 16. Dr. Ivan de Burgh Daly, professor of physiology, University of Edinburgh, Scotland, will deliver the seventh lecture, May 21, on "The Physiology of the Bronchial Vascular System."

Society News.—Dr. Joseph C. Aub, Boston, addressed the New York Endocrinological Society, March 25, on "Abnormalities of the Thyroid Glands."——Speakers at a meeting of the National Society for the Advancement of Gastro-Enterology at the New York Academy of Medicine, March 24, were Drs. Thomas Fitz-Hugh Jr., Philadelphia, on "Acute Gonococcic Perihepatitis—A New Syndrome of Right Upper Quadrant Abdominal Pain in Young Women"; Reuben J. Erickson, Albany, "Tuberculosis of the Intestine"; Lester R. Whitaker, Boston, "Electrocholecystocausis," and Henry Baker, Boston, "Insulin Treatment in Gastro-Intestinal Diseases."

Free Service Denied to Persons Able to Pay.—Investigation of the financial status of applicants for free service in city hospitals or in private hospitals at city expense has resulted in a saving of about $1,000,000 to the city, Dr. Sigismund S. Goldwater, commissioner of hospitals, announced recently. The division of investigation found in 1935 that nearly 9 per cent of those who applied for free hospitalization in city institutions, 12 per cent in private general hospitals and 5 per cent in private special hospitals were not eligible for free care at the taxpayers' expense. Before 1935 only those who actually occupied hospital beds underwent investigation, but clinic applicants are also investigated now, with the result that in 1935 over 7 per cent were rejected as not eligible. The division of investigation made decisions on 622,299 applicants during the year, 519,136 in the city institutions.

Hospital News.—The Queensboro Hospital, a fifty-four bed institution, was merged with the new Queens General Hospital March 1. The smaller hospital occupies part of the grounds of the new 580 bed general hospital, which was opened last October.——The Society of the New York Hospital announced February 21 that the Convalescent Home for Children, at White Plains, had been closed for an indefinite period. For several years operation of the home has resulted in a deficit of about $50,000 a year, a sum which the society can no longer meet, it was said. It has cared for more than 22,000 children in the twenty-eight years of its existence.——A new twelve story nurses' home and school is to be built immediately for St. Luke's Hospital at a cost of $1,200,000, it was announced March 5. It is designed to accommodate 300 nurses.——Dr. Sigismund S. Goldwater, commissioner of hospitals, recently appealed to private hospitals that receive city subsidies to take more ward patients to relieve overcrowding in the city's institutions. He pointed out that city hospitals are heavily overloaded, while wards in private hospitals are only 75 per cent occupied.

NORTH CAROLINA

Society News.—At the annual meeting of the Second District Medical Society in New Bern, recently, speakers included Drs. Paul H. Ringer, Asheville, and Louis B. McBrayer, Southern Pines, president and secretary, respectively, of the Medical Society of the State of North Carolina; James G. Ramsay, Washington, "Ruptured Duodenal Ulcer"; Elwood R. Boney, Kinston, "Allergy in General Medicine," and David T. Smith, Durham, "Vincent's Infections of the Lung."——Dr. Karl Schaffle, Asheville, addressed the Buncombe County Medical Society, March 2, on "Nervous Disorders Associated with Pulmonary Tuberculosis."——Dr. Lester C. Todd, Charlotte, discussed allergy at a meeting of the Catawba Valley Medical Society, Lincolnton, March 10.

OKLAHOMA

Society News.—Drs. Ray M. Balyeat and Carroll M. Pounders, Oklahoma City, addressed the Woods-Alfalfa County Medical Society, Alva, recently, on "Intratracheal Use of Iodized Oil in Treatment of Intractable Asthma" and "Pneumonia in Infancy and Childhood" respectively.——Dr. Charles F. Walker, Grove, addressed the Craig County Medical Society, Vinita, April 7, on "Infections Following Labor and Salpingitis."——Drs. Albert W. Pigford and George R. Osborne, Tulsa, addressed the Rogers County Medical Society, Claremore, April 20, on carcinoma and obstetrics, respectively.

PENNSYLVANIA

Personal.—Dr. John Speer Donaldson, Pittsburgh, has been appointed chief surgeon of the State Hospital for Crippled Children, Elizabethtown, succeeding Dr. Francis S. Chambers.——Dr. James S. Hammers, former superintendent of the Pittsburgh City Home and Hospital, Mayview, has been appointed medical director of the Lancaster County Hospital and Hospital for Insane, Lancaster.——Dr. George T. Rodman, Hawley, recently celebrated the fiftieth anniversary of his medical practice.

Society News.—Dr. Charles L. Brown, Philadelphia, was guest speaker at a meeting of the Schuylkill County Medical Society, Pottsville, March 11, on "Management of Congestive Heart Failure."——Dr. Edward C. Rosenow, Rochester, Minn., addressed the Erie County Medical Society, Erie, March 10, on "Newer Experimental and Clinical Studies on Focal Infections and Elective Localizations."——Dr. William Devitt, director of Devitt's Camp for tuberculosis near Allenwood, was elected president of the Pennsylvania Tuberculosis Society at its annual meeting February 26. Dr. Devitt succeeds Dr. Charles Howard Marcy, Pittsburgh, who served four years.

Philadelphia

Hospital News.—Dr. Wilbur P. Rickert has been named superintendent of the Philadelphia Hospital for Mental Diseases. Two new buildings will be erected at the hospital, which is said to be overcrowded.——Dr. Harry Lowenburg has been appointed pediatrician to the Philadelphia General Hospital.——Dr. George R. Minot, Boston, delivered the Benjamin Rush Lecture before the staff of the Pennsylvania Hospital, January 16, on "Some Aspects of Anemia and Purpura Hemorrhagica."

County Society to Hold Graduate Institute.—The Philadelphia County Medical Society will present its first graduate institute at the Bellevue-Stratford, April 20-24. The institute will deal with cardiovascular and renal diseases, which will be discussed by fifty-three members of the faculties of the University of Pennsylvania School of Medicine and Graduate School of Medicine, Jefferson Medical College, Temple University School of Medicine and the Woman's Medical College of Pennsylvania. At the opening luncheon Dr. George C. Yeager, president of the county society, will preside and speakers will be Mayor S. Davis Wilson, Drs. William C. Hunsicker, director of the Philadelphia Department of Public Health, and Maxwell J. Lick, Erie, president-elect of the Medical Society of the State of Pennsylvania. A banquet will be held Wednesday evening, April 22, at the Bellevue-Stratford, with Drs. Alexander H. Colwell, Pittsburgh, president of the state society, and Frank H. Lahey, Boston, as speakers; later Dr. Lahey will deliver the J. Chalmers Da Costa Oration on "Management of Biliary Tract Disease" at the regular meeting of the county society.

SOUTH CAROLINA

State Medical Meeting.—The eighty-eighth annual session of the South Carolina Medical Association will be held in Greenville, April 21-23, with headquarters at the Poinsett Hotel. The guest speakers will be Drs. George W. Crile, Cleveland, and William B. Porter, Richmond, Va. South Carolina physicians listed on the program include:

Dr. Charles R. F. Baker, Sumter, Treatment of Intestinal Obstruction by the Use of the Duodenal Tube and Suction.
Dr. Roy P. Finney, Spartanburg, Bedside Observations on the Dying.
Dr. David F. Adcock, Columbia, Blood Transfusion.
Dr. Roger G. Doughty, Columbia, Thyroid Disease.
Dr. Allen Izard Josey, Columbia, Cardiac Pain and Its Management.
Dr. James R. Young, Anderson, Clinical Study of 2,500 Cases of Appendicitis at the Anderson County Hospital over a Thirteen Year Period.
Dr. Carl B. Epps, Sumter, The Question of Drainage in Abdominal Surgery.
Dr. Hillyer Rudisill Jr., Charleston, Facts of General Interest About X-Rays and Radium.
Dr. John M. van de Erve, Charleston, Vesicular Eruptions of the Hands.
Dr. Joseph H. Cutchins, Easley, Simplified Ketogenic Diet in the Treatment of Bacillary Infection of the Urinary Tract.
Dr. Joseph I. Waring, Charleston, Prevention of Loss of Weight in the New-Born.
Dr. Benjamin O. Whitten, Clinton, Psychology of Subnormal Individuals.
Dr. LeGrand Guerry, Columbia, A Method for Reconstruction of the Common Duct.
Dr. William R. Wallace, Chester, Screw Worm Infestation.
Dr. Daniel Lesesne Smith Jr., Spartanburg, Treatment of Congenital Syphilis.

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TENNESSEE

Death Rates Declined in 1935.—The Tennessee Department of Health reports that the provisional death rate for 1935 was 10.6 per thousand of population, as compared with 10.9 for 1934. The infant death rate declined from 74.8 per thousand live births in 1934 to 64 in 1935, a new low record for the state. The typhoid death rate was 6.5 per hundred thousand of population, compared with 7.5 in 1934. The provisional mortality rate from diphtheria was 6.5, also a reduction from the 1934 rate of 7.4. The birth rate was 18.5 per thousand of population, an increase from the 1934 rate of 18.4.

Society News.—Drs. Carl W. Brabson, Telford, and Prentiss E. Parker, Johnson City, addressed the Washington County Medical Society, Johnson City, March 5, on "Diseases of the Stomach" and "Sympathectomy in the Treatment of Thrombo-Angiitis Obliterans" respectively.——At a meeting of the Campbell County Medical Society, Jellico, recently, Dr. Russell W. Lewis, Westbourne, discussed measles.——Drs. Edward F. Buchner Jr. and Franklin B. Bogart, Chattanooga, addressed the Chattanooga and Hamilton County Medical Society, March 5, on "Rate of Growth Before Birth" and "Radiation Therapy and the General Practitioner" respectively.——A symposium on cancer was presented at the meeting of the Dyer, Lake and Crockett Counties Medical Society, March 4, by Drs. Charles G. Andrews, Robert L. Sanders and John L. McGehee, Memphis.——Dr. Augustus H. Lancaster discussed congenital syphilis at a meeting of the Knox County Medical Society, Knoxville, March 3.

State Medical Meeting in Memphis.—The one hundred and third annual meeting of the Tennessee State Medical Association will be held in Memphis, April 14-16. Guest speakers will be Drs. James S. McLester, Birmingham, Ala., President, American Medical Association; Martin Hayward Post, St. Louis, who will speak on "Tuberculin Therapy in Ocular Tuberculosis," and John S. Coulter, Chicago, "Physical Therapy in Chronic Arthritis." Tennessee physicians listed on the program include:

Dr. Edward Dunbar Newell, Chattanooga, Local Anesthesia in the Reduction of Fractures.
Dr. Jesse C. Hill, Knoxville, Afebrile Exhaustive Psychosis Following Sickness.
Drs. William D. Anderson and Walter S. Lawrence, Memphis, An Evaluation of Radiation in Certain Diseases of the Female Pelvis.
Dr. Edward D. Mitchell Jr., Memphis, Symptoms of Peptic Ulcer.
Dr. George R. Livermore, Memphis, Urinary Antiseptics.
Dr. Henry B. Gotten, Memphis, Obesity and Malnutrition.
Dr. William T. Pride, Memphis, Repairs of New and Old Lacerations Following Childbirth.
Dr. Lucius E. Burch, Nashville, Cesarean Section—Indications, Contraindications and Technic.
Dr. William R. Cate, Nashville, Pneumonia, with Special Reference to Typing and Specific Therapy.
Dr. Wilson C. Williams, Nashville, The State Health Program.
Dr. William E. Boyce, Flatwoods, The Chemistry of Barbituric Acid and Its Derivatives.

The Tennessee State Pediatric Association will hold its annual meeting, April 14, with Dr. Hugh McCulloch, St. Louis, as guest of honor. The woman's auxiliary will also meet April 14-16.

WISCONSIN

Vital Statistics.—The state board of health reports that the provisional death rate for 1935 is 10.1 per thousand of population, the same as the official rate for 1934. Heart disease with a rate of 248.1 per hundred thousand and cancer with a rate of 124.7 were the leading causes of death. The rate of maternal mortality was 3.6 per thousand live births, compared with a final rate of 4.2 in 1934; this is the lowest rate ever reached in Wisconsin. The infant mortality rate was 45.2 per thousand live births, also the lowest ever recorded. More deaths from automobile accidents were reported than ever before, 750 as compared with 665 for the preceding year. The tuberculosis death rate, 35.3, was the lowest that the state has ever had.

PHILIPPINE ISLANDS

Medical Board Appointments.—Drs. Jose M. Delgado and Cesareo Santa Ana, Manila, have been appointed members of the Board of Medical Examiners of the Philippine Islands and Dr. Rufino Abriol, Manila, chairman.

HAWAII

Personal.—Visitors to Honolulu recently included Drs. George E. Brewer, emeritus professor of surgery, Columbia University College of Physicians and Surgeons, New York, and William A. Coventry, Duluth, Minn., past president of the Minnesota State Medical Association.

GENERAL

Meeting of Committee on Maternal Welfare.—The American Committee on Maternal Welfare will hold its annual meeting at the Hyde Park Hotel, Thirty-Sixth and Broadway, in Kansas City, May 13, under the presidency of Dr. Fred L. Adair, Chicago; the secretary is Dr. James R. McCord, 50 Armstrong Street, Atlanta. Reservations for luncheon may be made through Dr. LeRoy A. Calkins, the University of Kansas, Kansas City, Kan. Members and others interested are invited.

Meeting of American Heart Association.—The twelfth annual meeting of the American Heart Association will be at the Hotel Phillips, Kansas City, May 12. Speakers will include the following physicians:

William B. Kountz, St. Louis, Studies on the Revived Human Heart.
Louis N. Katz, David B. Witt and Miss E. Lindner, Chicago, The Dynamic Effect of Acute Experimental Poisoning of the Heart with Diphtheria Toxin.
Howard B. Sprague, Boston, Differential Diagnosis of Congestive Heart Failure and Constrictive Pericarditis.
William J. Kerr and Franklin J. Underwood, San Francisco, Hemiconstriction of Vascular System Associated with Cerebral Disease.
Irvine H. Page, New York, Anterior Nerve Root Section and Splanchnic Section in the Treatment of Hypertension.
Wallace M. Yater, Washington, D. C., Thorotrast Arteriography in Vascular Diseases of the Extremities.

Radium Society Meeting.—The annual meeting of the American Radium Society will be held at the Hotel Kansas Citian, Kansas City, Mo., May 11-12. Dr. Curtis F. Burnam, Baltimore, will deliver the Janeway Lecture at the annual banquet Monday evening May 11 at the University Club. Dr. Douglas Quick, New York, chairman of the Janeway Lecture Committee of the society, will present the Janeway Medal to Dr. Burnam and to the previous annual lecturers, Drs. James Ewing and Francis Carter Wood, New York, and George E. Pfahler, Philadelphia. Dr. Zoe Allison Johnston, Pittsburgh, will be installed as president at this meeting. Dr. George W. Grier, Pittsburgh, is the present president and Dr. Edward H. Skinner, Kansas City, secretary.

Health Officers' Conference.—The annual Conference of State and Territorial Health Officers with the U. S. Public Health Service will be held in Washington, D. C., April 13-14. The program will include a symposium on the control of syphilis with the following speakers: Drs. Raymond A. Vonderlehr of the public health service; Joseph Earle Moore, Baltimore; Dudley C. Smith, University, Va.; Arthur J. Casselman, Trenton, N. J.; John H. Stokes, Philadelphia, and Nels A. Nelson, Boston. There will also be a symposium on industrial hygiene and the second day will be devoted to discussion of policies and procedures in connection with administration of the public health phases of the social security act. The Children's Bureau of the Department of Labor will hold a similar conference with the health officers April 15-16.

Meeting of Proctologists.—The American Proctologic Society will hold its annual meeting at the Hotel Kansas Citian, Kansas City, Mo., May 11-12. There will be symposiums on "Diverticulosis and Diverticulitis," "Causes of High Rectal and Low Back Pain" and "Pilonidal Sinus." The following speakers will present formal papers:

Dr. Collier F. Martin, Philadelphia, Variety and Distribution of Gross Lesions in Lymphopathia Venerea.
Dr. Dudley A. Smith, San Francisco, Fistula in Ano.
Dr. Louis A. Buie, Rochester, Minn., Anterior Lymphatic Abscess.
Dr. Louis J. Hirschman, Detroit, Drainage in Certain Anorectal Operations.
Dr. Harry E. Bacon, Philadelphia, Pruritus Ani.
Dr. Frederick B. Bowman, Hamilton, Ont., Injection Treatment of Prolapse of the Rectum.
Dr. Frank H. Murray, Chester, Pa., Association of the Proctologic and Urinary Tracts.

Bequests and Donations.—The following bequests and donations have recently been announced:

Protestant Episcopal and Frankford hospitals, Philadelphia, $5,000 each by the will of Bertha S. Wilbraham.
Abington Memorial Hospital, Abington, Pa., and Children's Hospital, Philadelphia, $5,000 each by the will of Sara R. Hallowell, Philadelphia.
Lankenau Hospital, Philadelphia, awarded $9,320 held in trust for eighteen years from the estate of Mrs. Louisa Schada.
Jewish Hospital, Philadelphia, $5,000; Mount Sinai Hospital, Philadelphia, $2,000; Jewish Consumptives' Home, Denver, $2,000; Eagleville Sanatorium, Eagleville, Pa., $1,000 by the will of Meyer Hoffman, Philadelphia.
Germantown Hospital, Philadelphia, $5,500 by the will of Mrs. Elizabeth B. Wistar Warner.
Montefiore and Mount Sinai Hospitals, New York, $5,000 each by the will of the late Marco Fleishman.
Presbyterian Hospital, Philadelphia, $10,000 from the estate of Henry R. Mulford, a policeman; $5,000 by the will of Clara S. Stevenson.
The following New York Hospitals received bequests in the will of the late Charles Klingenstein: Presbyterian, Lenox Hill, Lebanon and Neurological Institute, $1,000 each; Beth Israel, $2,000; Montefiore, $5,000; Mount Sinai, $50,000.

Low Mortality Record.—A new low mortality rate, 8.4 per thousand of population, was recorded among the 17,000,000 policyholders of the Metropolitan Life Insurance Company in 1935, according to its *Statistical Bulletin*. New low rates were registered for typhoid, tuberculosis, diarrheal conditions, chronic nephritis and puerperal diseases, burns and drowning. The rate for typhoid was 1.1 per hundred thousand; tuberculosis, 55.6 per hundred thousand, marking a reduction of 6.4 per cent from the previous low point of 59.4 of 1934. The rate for diarrheal complaints was 8.1 per hundred thousand and the rate for puerperal diseases, 8.7. Rates for deaths from accidental burns and drowning were 3.2 and 4.9, respectively. Declines were also noted for cancer, which had a rate of 95.5; diabetes, 24.2; heart disease, 157.4; suicides, 9.1; appendicitis, 11.4, and automobile accidents, 20.3. The rate for deaths from alcoholism was the lowest for any year since 1921, 2 per hundred thousand.

Study of Suicide.—The Committee for the Study of Suicide, recently organized in New York, has outlined plans for a comprehensive study. Intramural studies of persons inclined to suicide will be made in selected hospitals for mental disease; these will include constitutional, neurologic, psychiatric and psychoanalytic investigations, with special reference to therapy and prevention. Similar studies of ambulatory cases will be made in outpatient clinics; these studies will be primarily therapeutic. Social studies will be undertaken through follow up of attempts at suicide, with investigations of social background and history and recommendation of psychiatric or psychoanalytic treatment in agencies available to the committee. Ethnologic studies consisting of investigations of suicide among primitive races are planned. Dr. Henry E. Sigerist, professor of history of medicine, Johns Hopkins University of Medicine, Baltimore, and Edward Sapir, Ph.D., Sterling professor of anthropology and linguistics, Yale University, New Haven, Conn., have been made consultant members of the committee to advise in the parts of the work that touch their fields. Executive offices of the committee are at Room 1404, the Medical Arts Center, 57 West Fifty-Seventh Street, New York. Dr. Gregory Zilboorg is secretary and director of research.

Association for Study and Control of Rheumatic Diseases.—The American Association for the Study and Control of Rheumatic Diseases will meet at the Phillips Hotel, Kansas City, Mo., at 9 o'clock and again at 2 o'clock, May 11, under the presidency of Dr. Russell L. Haden, Cleveland; the secretary is Dr. Loring T. Swaim, 372 Marlboro Street, Boston. The following physicians will present an educational program on the differential diagnosis of diseases of joints:

Russell Haden, Cleveland: Clinical grouping and diagnostic approach to the patient with joint conditions.
Edwin P. Jordan, Chicago: Differential diagnosis of joint diseases from the standpoint of pathology.
Ralph H. Boots, New York: The essential features in differential diagnosis of atrophic and hypertrophic arthritis.
Joseph Miller, Chicago: Differential diagnosis between Strümpell-Marie disease and osteo-arthritis of the spine.
Stafford L. Warren, Rochester, N. Y.: Differential diagnostic points of gonorrheal arthritis.
Frank D. Dickson, Kansas City: Differential diagnostic points of tuberculous arthritis, especially tuberculous polyarthritis.
Ralph A. Kinsella, St. Louis: Differential diagnostic points of rheumatic fever.
Philip S. Hench, Rochester, Minn.: Differential diagnostic facts about gout, distinguishing it from other joint diseases.
Willis C. Campbell, Memphis, Tenn.: Differential diagnosis of traumatic arthritis.
Charles H. Slocumb, Rochester, Minn.: Differential diagnosis of fibrositis.
William J. Kerr, San Francisco: Differential diagnostic points of constitutional conditions mistaken for arthritis, which produce skeletal aches and pains.

Medical Bills in Congress.—*Change in Status:* H. R. 12098 has been reported to the House, making appropriations for the Departments of State and Justice and for the Judiciary, and for the Departments of Commerce and Labor, for the fiscal year ending June 30, 1937. For the Children's Bureau, Department of Labor, the following appropriations are proposed: For grants to enable each state to extend and improve services for promoting the health of mothers and children, $2,820,000; for grants to states to extend and improve services for crippled children, $2,150,000; for grants to states for the care of homeless or neglected children, $1,200,000. *Bills Introduced:* H. J. Res. 555, introduced by Representative Mapes, Michigan, proposes to create a Joint Committee on the Reorganization of the Administrative Branch of the Government. H. R. 11661, introduced by Representative Lee, Oklahoma, proposes to provide federal service medals of honor to civilian federal employees who have made outstanding contributions to the advancement of scientific knowledge or the application of its truths in a practical way for the welfare of the human race, or who have rendered conspicuous service to humanity at the voluntary risk of life or health over and above the ordinary risks of duty. S. 4390, introduced by Senator Sheppard, Texas, proposes to provide that appointments to the Medical Administrative Corps shall be restricted to pharmacists who are graduates of recognized schools or colleges of pharmacy requiring four years of instruction for graduation, and provides that the number of such pharmacists in the corps shall not exceed sixteen.

Society News.—At the annual meeting of the Southern Psychiatric Association in New Orleans, February 22-23, Dr. George P. Sprague, Lexington, Ky., was chosen president-elect, and Dr. William D. Partlow, Tuscaloosa, Ala., was installed as president. Dr. Charles S. Holbrook, New Orleans, was elected vice president, and Dr. Newdigate M. Owensby, Atlanta, was reelected secretary. Guest speakers at the meeting included Drs. John H. Musser, New Orleans; Lloyd J. Thompson, New Haven; Milus K. Bailey, Atlanta; William E. Gardner, Louisville; Arthur J. Schwenkenberg, Dallas, Texas; Frederick L. Fenno, New Orleans, and Frank R. Gomila, commissioner of public safety, New Orleans.——Dr. Robert B. Greenough, Boston, was elected president of the American Society for the Control of Cancer at the recent annual meeting in New York. Dr. Edmund B. Wilson, New York, is vice president and Dr. Frank E. Adair, New York, secretary. Dr. James Ewing, New York, was named chairman of the board.——The Eugenics Research Association will meet at the American Museum of Natural History, New York, June 6.——Dr. Fred W. Rankin, Lexington, Ky., was chosen president-elect of the Southeastern Surgical Congress at the recent session in New Orleans, and Dr. Benjamin T. Beasley, Atlanta, director general of the congress, was named secretary-treasurer. The next annual meeting will be held in Louisville, Ky.——Dr. Ray Lyman Wilbur, Stanford University, Calif., has been chosen president of the American Social Hygiene Association, succeeding Dr. Edward L. Keyes, New York, who resigned after twelve years' service.——The Association for the Study of Allergy will hold its annual meeting at the Baltimore Hotel, Kansas City, Mo., May 11-12. Dr. Morris Murray Peshkin, New York, is president of the association and Dr. Warren T. Vaughan, Richmond, Va., secretary.

CANADA

University Appointments.—Dr. Charles B. Weld of the department of physiology at the University of Toronto Faculty of Medicine has been appointed professor of physiology at Dalhousie University Faculty of Medicine, Halifax, N. S. He succeeds Dr. Ernest W. H. Cruickshank, who resigned in December 1935.——Dr. Cecil Percy Martin, chief demonstrator in anatomy and university anatomist at Trinity College, Dublin University, has been appointed Robert Reford professor of anatomy at McGill University Faculty of Medicine. Dr. Martin succeeds Dr. Samuel E. Whitnall, who resigned in 1934 to accept the chair of anatomy at Bristol University.

McGill Reorganizes Curriculum.—McGill University, Montreal, announces the reorganization of its medical curriculum into a course of five years including internship. The new plan, which goes into effect in September, will replace the present undergraduate course, now spread over five academic years of seven and a half months each, by a course covering four years of nine months each. The fifth year may be spent in an internship in an approved hospital or in further medical study at McGill or at another medical school approved by it. It is expected that in most cases the intern year will be chosen, but those who choose further study will have several alternatives. Among these is the opportunity for those who wish to obtain British qualifications to spend the fifth year in a British hospital school preparing for examinations by the British licensing bodies. The minimum requirement for entrance to the medical course will remain the same, three years in a college or faculty of arts and science.

Personal.—Dr. John T. Phair, Toronto, has been appointed chief medical officer of health of Ontario; he will continue to serve as director of the division of maternal and child hygiene.——Dr. John G. Fitzgerald, director of the School of Hygiene and of Connaught Laboratories, University of Toronto, has been appointed a member of the Permanent Commission on Biological Standardization of the Health Organization of the League of Nations.——Dr. Morris W. Thomas, Victoria, B. C., has been appointed executive secretary of the British Columbia Medical Council and British Columbia Medical Association.——The Royal Society of Canada presented a gold medal to Dr. James B. Collip, professor of biologic chemistry, McGill University Faculty of Medicine, Montreal, at a meeting in Ottawa, February 14, in recognition of his achievements in

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science.—Dr. David S. Hoig, medical superintendent of the Oshawa General Hospital, Oshawa, was guest of honor at a dinner given by the hospital trustees in January celebrating his twenty-fifth anniversary in that position and his fifty-fifth year as a practitioner in the community.

FOREIGN

Congress on Light.—The third International Congress on Light will be held in Wiesbaden, Germany, September 1-7, under the presidency of Dr. W. Friedrich of the University of Berlin. Subjects for discussion will include the entire field of the biology of light, biophysics and the therapy of light. Information may be obtained from the secretary general, Dr. H. Schreiber, Berlin N. W. 7, Robert Koch Platz 1.

Convicted for Sale of Inaccurate Thermometers.—The U. S. Consul at Leipzig, Germany, David H. Buffum, recently reported to the U. S. Department of Commerce that the manager of a Thuringia glass firm had been convicted of selling 3,000 inexact fever thermometers to Italy. The instruments had been rejected by examining authorities as not in compliance with regulations. Sentence was said to be four months' imprisonment. During the trial it was brought out that the defendant had been suspected in 1933 of selling nonapproved thermometers to foreign countries.

Congress on Rheumatism.—The fifth International Congress on Rheumatism will be held in Lund, Sweden, September 3-5, and in Stockholm, September 7-8, under the presidency of Dr. Sven Ingvar, Lund. Subjects for discussion will be allergy in rheumatic diseases, reading of roentgenograms in arthritis, nature of myalgia, aid of the orthopedist in rheumatic diseases and housing conditions in relation to rheumatic diseases. American physicians listed on the program include Drs. Ralph Pemberton, Philadelphia, Alvin F. Coburn and Homer F. Swift, New York, and Loring T. Swaim, Boston. The secretary of the congress is Prof. G. Kahlmeter, Birgerjarlsgatan 36, Stockholm.

Congress on Microbiology.—The second International Congress for Microbiology will be held in London, July 25 to August 1, with headquarters at University College. The president of the executive committee is Prof. John C. G. Ledingham and the general secretary Dr. Ralph T. St. John-Brooks, both of Lister Institute, London. All persons interested in microbiology may become members of the congress on payment of £1 sterling or $5. Prospective members are urged to register early. A preliminary program may be obtained from the general secretary, whose address is Lister Institute, Chelsea Bridge Road, London, S. W. 1. Dr. Karl Landsteiner, New York, is president of the American committee and Malcolm H. Soule, Sc.D., University of Michigan, Ann Arbor, secretary.

Deaths in Other Countries

Arnold Netter, formerly professor of medicine at the University of Paris and the University of Strasbourg, died in Paris, March 1, aged 81.—**Sir Charles Ballance,** British surgeon, author of works on surgery of the brain, died in London in February, aged 79.

Government Services

U. S. Public Health Service

Drs. Edwin H. Carnes and Franklin J. Halpin have been promoted and commissioned as surgeons in the regular corps of the public health service, and Drs. Gregory J. Van Beeck, Edward C. Ernst and Peter J. Gorman, as senior surgeons.

Orthopedic Mechanic Wanted for Canal Service

A vacancy exists in the position of orthopedic mechanic in the Panama Canal service on the Isthmus. Applicants must be American citizens not more than 45 years old, in good health and physically sound. The duties of the position are to perform work of journeyman grade in mechanical orthopedics, to supervise one or two orthopedic mechanics' helpers and to perform related work as assigned. Minimum qualifications include common school education, at least three years' successful experience, working knowledge of standard practices of the trade, ability to perform difficult orthopedic work, skill in use of tools and equipment, ability to work from rough sketches and oral instructions, manual dexterity, and ingenuity. Application blanks may be obtained from the Chief of Office, The Panama Canal, Washington, D. C.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 7, 1936.

The Problem of Eugenics

Delivering the annual Galton lecture to the Eugenics Society, Mr. Julian Huxley urged that a new outlook on the scope and method of eugenics was needed. Apart from a few immediate palliative measures, such as sterilization of certain types of defectives and reduction of the differential birth rate of different classes, the main task of eugenics should be the study of the existing social system with a view to transforming it into one favorable to later measures of selective breeding. Social environment should be taken into account to a much greater extent by eugenists. Its effects were so powerful that they easily masked hereditary effects. For instance, the average stature, physique and intelligence of the lower economic strata in Britain were lower than those of the upper. This had often been put down by eugenists to innate inferiority. But until they had done something to equalize environment between the classes there was no scientific proof. Indeed, it was practically certain that much of the difference was due to environment. The same applied with even greater force to differences in intelligence and achievement between races and peoples at different cultural levels.

Eugenists had assumed that qualities making for success in the existing social system were eugenically desirable. This was largely mere unconscious bias. The time had now come to look at the matter on a broader basis. One way was to plan measures suited to the present social environment. Its economic structure implied that society should breed for docility in the many and for initiative and brains in the few. Its nationalist structure implied that it must consider mere quantity of population as against quality more seriously than if the risks of war and the need for military man power were reduced. Prospects of eugenic advance were thus, at best, extremely limited. Or it could plan for some remote ideal type of society. If so, it must face the fact that for a long time to come many of the genetically best types in intelligence and sensitiveness would be social misfits.

The course which scientifically and practically was the best was to attempt to transform both environment and inheritance more or less simultaneously. The equalization of social environment for different classes by upward leveling must be encouraged, for only thus could the innately superior and inferior types be picked out with certainty. Internationalism must be encouraged; otherwise there would be an obsession of the need of quantity as against quality. Society above all must avoid being dysgenic. As R. A. Fisher had shown, factors at present making for rise in the social scale tended to become coupled with those making for low fertility. An attempt must be made to achieve a society in which the qualities making for success were of greater value for the evolutionary progress of man than in the present system. Cooperative and altruistic tendencies and those conducing toward greater awareness and sensitivity now usually handicapped a man. They should be not only social assets but eugenic aims.

One serious danger existed. If there was one thing which modern eugenics had demonstrated it was that unfavorable mutations were much more common than favorable—that the hereditary constitution had a tendency to debase itself. In wild species this tendency was kept in check and the opposite, though weaker, tendency encouraged by natural selection; in domesticated species, by artificial selection. In civilized communities the tendency to degeneration was not being checked. If nothing was done, the innate qualities of our species would slowly deteriorate by the automatic accumulation of harmful

mutations. This would occur even if civilization did not collapse through war. Active selection in the opposite direction was the only remedy. But with our present type of social system nothing but palliative tinkering was possible. A change of moral outlook and social system that would encourage eugenic reproduction was needed.

Research with Regard to Malarial Mosquitoes

Mr. H. S. Leeson and Mr. J. D. Gillett, members of the staff of the Entomological Department on the London School of Hygiene and Tropical Medicine, have left for southern Rhodesia to continue an investigation begun by the former into the life history of malarial mosquitoes. The investigation will cover the whole of Central Africa from southern Rhodesia to the Sudan. The aim is to scrutinize the two mosquitoes chiefly responsible for the carrying of malaria, to see whether they are everywhere identical and are not subdivided. Studies in Europe have shown the importance in the prevention of malaria of examining with microscopic care insects which appeared to be a simple species. They have shown that there are no fewer than six races of Anopheles maculipennis, that their breeding places and habits are different, and that some like brackish water, some fresh water, some warm water and some cold water and keep to the north of Europe. Some sleep at peace with all mankind during the winter, either in cold attics or in cattle sheds. Others are restive, haunt the homes of men, continue to feed during the winter and are responsible for the spread of malaria in several parts of Europe, particularly the Netherlands. In Asia similar knowledge has led to great advances in the prevention of malaria. For example, if a dangerous mosquito liked sunshine it was sometimes possible to blot it out merely by growing a hedge or jungle over its breeding place and so excluding the sunlight. In other places minute chemical changes in the water had driven out dangerous species of mosquito and freed large populations from malaria, from which they had suffered for years. The research work in Africa aims at close cooperation with agriculture and forestry. At present water remains in swamps after heavy rains, and those become very malarial. It is believed that many of these swamps could be converted from dangerous areas into reservoirs, which would assist the natives to tide over the dry season and to grow crops never grown before.

PARIS

(From Our Regular Correspondent)

March 15, 1936.

Clinical Application of Staphylococcus Anatoxin

The question as to whether staphylococcus anatoxin can be employed in certain forms of infection due to staphylococci is being actively debated here. The anatoxin is prepared as suggested by Prof. G. Ramon of the Pasteur Institute by the simultaneous action of a minute amount of solution of formaldehyde and a moderate degree of heat, on a bouillon culture of staphylococci, previously filtered so that the filtrate contains no living organism.

An important paper by Professor Ramon and his co-workers on the use of the anatoxin, which appeared in the *Presse médicale*, February 1, advocates the injection of the anatoxin in such surface lesions due to staphylococci as furuncles, sycoses and acne. The details of the use of the anatoxin are given in this paper. The local reactions are slight, and general reactions were only febrile and never more than of twenty-four hours' duration. Two hundred cases of furunculosis were observed over a period sufficiently long to justify some conclusions. Of the 200 cases, 131 have either been cured or greatly improved. In only seven of the 131 were recurrences noted. The results of the treatment of sycoses, eczema, axillary adenitis, paronychia and acne have been equally satisfactory. In all about 500 patients have received the injections, 300 at the Pasteur Institute and 200 by physicians throughout France, all of whom have warmly endorsed this new therapeutic method.

In a second paper (*Presse médicale* of Feb. 19, 1936) Ramon and his co-workers take up the question of the antistaphylococcic immunity produced by the specific anatoxin in patients suffering from staphylococcic infections. The anatoxin results in the formation of a specific antitoxin, which must attain a certain level in the blood in order to combat the staphylococcic infection. In the second paper the indications, injections to be given as preliminary tests of hypersensibility and the doses for treatment purposes are cited in detail.

That Ramon's warning to test the sensitivity of the patient before beginning the treatment was timely is well shown by a case reported by Duvoir and his colleagues before the Société médicale des hôpitaux of Paris, February 28. A woman, who was given a first injection of 0.5 cc. of the anatoxin for an axillary adenitis December 13 in the outpatient department of the Hôpital St. Louis, was one of a number who had been injected the same day, none of whom reported any serious reaction. Toward evening the patient had a severe chill followed by high temperature. On admission to Duvoir's service the next day, in addition to the marked febrile reaction there were all the symptoms and signs of a cardiovascular collapse. She died on the following day (forty-eight hours after being given the anatoxin injection). The necropsy revealed only a gross hemorrhage in the right and a microscopic hemorrhage in the left adrenal gland. It appears as though an extreme degree of intolerance toward the staphylococcus anatoxin existed in this patient.

In the discussion of Duvoir's case, Debré did not believe that death was due to a fault in the technic of preparation of the anatoxin, the result of which would be that the patient had received a large dose of staphylococcus toxin, because none of the other patients who had received the anatoxin on the same day as the patient had noted any ill effects. The case teaches that one should always test the sensitivity of the patient by injecting 0.1 cc. of the anatoxin and observe the reaction following such a preliminary injection.

At the same meeting, two papers were read by Tzanck and his co-workers, one on the results, accidents and dosage of the anatoxin in skin and other staphylococcic infections and the other on a comparison between the antitoxin content of the blood serum and the therapeutic results. Of sixty-two patients with various infections of the skin and other superficial structures treated with the anatoxin, eighteen were markedly improved, thirty-five improved, three not improved and six are still being treated or have not returned. The most gratifying results were obtained in furunculosis and dermatitis of pyogenic origin. Axillary adenitis was resistant; in sycosis the result was good in one, but in three others the treatment was a failure. Reactions were infrequent and, when observed, only slight.

It is advisable before beginning the treatment to try an intradermal injection and note whether there is any reaction.

In his second paper, Tzanck stated that there was no relation between the antitoxin content of the blood serum and the action of the anatoxin. The serum may contain a high percentage of antitoxin and yet recurrence take place. On the other hand, a cure may follow the first injection and yet the blood serum contain very little antitoxin.

At the January 27 meeting of the Academy of Surgery, Sauvé reported twenty-five cases treated with the Ramon anatoxin. As a prophylactic immunization measure, i. e., vaccination, 0.5, 1 and 1.5 cc. were injected at eight day intervals. In this group there were six successful results in cases presenting the sequelae of a septicemia. In the second group, in which anatoxin was employed as a therapeutic agent, there was one brilliant result in two cases of severe sepsis and one death. In four cases of carbuncle there was marked improvement in all.

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In the remaining nineteen cases the results were not satisfactory. Sauvé is of the opinion that the anatoxin is of greater value as a prophylactic than as a curative measure.

At the same meeting, Soupault and Bernardini reported a case in which they attributed the favorable outcome of a severe staphylococcic sepsis to the use of the anatoxin but which would appear to be the result of removal of the focus of infection (osteomyelitis of the ankle bone) by amputation of the leg. In a man, aged 48, there was a sudden lighting up of an old bone focus followed by symptoms of septicemia. Blood culture revealed the presence of Staphylococcus aureus. There was no amelioration following two injections of anatoxin at eight day intervals. After a third injection and an amputation on the twentieth day, the septicemia disappeared rapidly.

Capelle added two personal cases, one of staphylococcic osteomyelitis of the femur and the other an osteo-arthritis of the wrist with metastatic arthritis of the knee and the ankle. Both patients recovered rapidly following the use of the anatoxin.

The "Silent" Periods of Diabetes

In the Dec. 5, 1935, issue of *Marseille médical*, Jouve-Balmelle directs attention to certain intervals in the course of diabetes in which all of the classic symptoms, even the glycosuria, either become very mild or disappear completely. A single examination of the urine does not suffice in order to recognize a diabetes or to determine the gravity of the individual case, because of the great variations in the degree of glycosuria. Of 192 typical cases followed over a long interval, forty-six are of especial interest owing to the fact that, despite diet and treatment, the glycosuria was constant. The same was true to a greater or lesser extent of the clinical symptoms.

In other of the 146 cases, both the clinical signs and the glycosuria disappeared completely at times during a period of observation of several years. Even though a more liberal diet was allowed, neither the clinical signs nor glycosuria recurred during these "silent" periods. Glycosuria is of variable duration, so that an exacerbation of the most severe type (acidosis, acute tuberculosis) may appear suddenly without apparent cause. The prognosis of a case of diabetes should not be based on the degree of sugar content of the blood or urine, because these vary from day to day. One cannot state that a case of diabetes is benign just because a single examination of the blood and urine show a slight elevation.

Even in the "silent" period the diet should be strictly adhered to.

BERLIN

(From Our Regular Correspondent)

Feb. 15, 1936.

Convention of Nature Cure Physicians

In May 1935 the merger of various groups into a united "National Organization for a new German Medicine" (Reichsarbeitsgemeinschaft für eine neue deutsche Heilkunde (THE JOURNAL, Sept. 7, 1935, p. 811) took place. Among the groups which merged at that time were homeopathic and regular physicians, biochemists, nature cure physicians, kneippists, balneologists and psychotherapeutists. As the national fuehrer of medicine expressed it on that occasion, this united organization has undertaken the task of bridging the gaps which separate the various systems and of synthesizing the tenets of the newer schools with those of the old. The Reichsarbeitsgemeinschaft held its first district group convention in Berlin (Jan. 17 to 19) in conjunction with the third national convention of the Reichsverband der Naturaerzte (National League of Nature Cure Physicians). This convention provided an interesting insight into the present state of the movement as well as many sidelights on it. The director of the nature cure group said at the opening of the meeting that now, since the representatives of all the many schools of biologic therapeutics have formed a united organization, it is no longer a case of one medical group fighting another but of a united struggle to improve the nation's health. All forces are now combined in the campaign for a new German medicine. Our work must go on to completion, our goal must be the production of a healthier German race. The first report was given by Professor Dr. Kötschau, director of the policlinic of biologic medicine of the University of Jena and also director of the Reichsarbeitsgemeinschaft. His subject was "Methods and Aims of the Biologic Movement for the Foundation of a New German Medicine." Since an end of their theoretical separation had been publicly recognized, nature cure physicians and physicians of the old school must undertake together the unbiased examination of all therapeutic measures. The paracelsian method can no longer be regarded as fundamental; the infinitude of nature must not be bound to a narrow rational concept. The science of Paracelsus has tended to lead away from nature; the slogan of the present should be "Back to Nature." The prominence of biologic ideas in the weltanschauung of the new state has done much to influence and further nature science. The creation of a new school of German medicine presupposes a changed concept of the physician. With the new German medicine a new type of doctor comes into being.

Likewise interesting from many points of view were the remarks of Dr. Finke, secretary of the National League of Nature Cure Physicians. He pointed out that for the past year several groups and societies of medical men (among others the Hydrotherapeutic Institute of the University of Berlin and the Nature Cure Method Clinic at Jena, the latter sternly opposed by the faculty of medicine) have been occupying themselves with questions of physical dietetics. "With the dawn of a new era, the guiding hand of government has pursued a course wholly in accord with the totalitarian philosophy of nature cure physicians." The world of the nature physicians corresponds precisely with that of the new political concept (staatsauffassung). Dr. Finke then touched on various topics of general interest. The designation "practicing physician" (praktischer Arzt) must be avoided, he said, because enough is implied by the term "physician." It is to be hoped that the legal provisions for the licensing of specialists will be repealed. This encouragement of specialization is opposed to the concept of the new German physician. The reason for this can be stated in a word: a nature cure physician treats all mankind; accordingly, he may think of himself as an ear, eye or skin specialist at one and the same time (THE JOURNAL, July 27, 1935, p. 294). The nature cure physician handles surgical cases in his own way and in so doing may recognize no limit to his professional jurisdiction. At the same time he acknowledges the importance of surgery as a necessary technic within the framework of medicine. The world-view attitude must be kept within bounds. This sketch of a so to speak responsible "nature physician" tells the reader enough; further comment is unnecessary.

Dr. Brauchle, director of the nature medicine clinic of Rudolph Hess Hospital in Dresden, compared nature medicine and mechanistic methods. The mechanist, he said, is the man who disregards nature, who considers the removal of a tumor, for example, as sufficient, whose philosophy is "as many methods as there are diseases." The opposite biologic concept draws on all cosmic elements that nature has placed at the disposal of man. It repudiates the artificial synthetic method. Disease is the sum total of all defense mechanisms. Nature medicine, accordingly, instead of fighting bacteria, attempts to strengthen the defense mechanisms of the physical entity. One can speak with Paracelsus of "a physician within man" who strives for a maintenance of equilibrium. Whereas the old school of medicine masters only externalities, the nature physicians seek to liberate the inner forces of defense. Disease and pain may

both appear as results of a disturbed equilibrium, yet there may conceivably be a sharp distinction between them. Nature cure science may cure the disease but not the sufferings. Disease is a defense activity. Even if the organism were not diseased, it might perish from pain. Suffering is the sum of all weaknesses. Nature medicine requires, as Dr. Brauchle emphasized, that together with treatment of disease must go instruction in a better conformity of life to nature. The hospitals must be expanded into educational centers for hygienic living.

"Coordination of Popular Medicine with the Medical Profession" was discussed by G. Wegener, director of the national federation for hygienic ways of life in conformity with nature. (Reichsarbeitsgemeinschaft der Verbände für naturgemässe Lebens- und Heilweise). He assailed mysticism and sectarianism. He spoke of the existing gulf between the medical profession and the public. This he believed should be bridged as soon as possible through the extension of nature cure methods, the medicine of future ages.

A series of reports gave an insight into various problems of the nature cure method; among others, its introduction into hospitals. The value of the kneippian nature cure method in diseases of childhood was stressed. The biochemists of today are harvesting the fruits of Kneipp's painstaking pioneer labors. Further papers dealt with nature cure science and dentistry, rheumatism of the soft parts and myogeloses, herb medicine, active articular rheumatism and the physician as an educator. The physician must instruct his patients in nature cure matters in order that they may in turn instruct others and live lives in harmony with nature, independent of the physician. Greater emphasis must be placed on the diet. What we eat and how we eat are equally important.

Dr. Bastanier of Berlin presented an explanation of homeopathy which further demonstrated the willingness on the part of the various groups to synthesize their differences. The speaker, taking exception to some of Dr. Brauchle's remarks, stated that in his opinion not every fever possesses a therapeutic effect and not every patient is able, *sui generis*, to produce all antitoxins. Neither is it possible to treat every phenomenon of disease. Homeopathy understands the human being as a complex of psychophysical idiosyncrasies and assists the will to a self healing of the body: "Every remedy cures that which it produces." Thus Bastanier defined the homeopathic method. It was brought out in a discussion of medicinal plants that a study of phytogeography was an absolute necessity and that herb medicine would receive a greater impetus from it.

The paper read by Prof. Dr. J. H. Schultz of Berlin on "Methods and Aims in Psychiatry" was received with great enthusiasm. Dr. Schultz posed the decisive question To what degree does the psychic influence physical happenings? An approach to the solution of this problem must be by way of the hypnotic method. In hypnosis, changes are effected in organic functioning and the normal state is again restored. Numerous experiments lead to the conclusion that all functional occurrences can be changed by purely psychic influence. "Implications of psychic influence are as ample as life itself." Psychotherapeutic methods that lead to self healing often require long periods of time to elucidate the nature of a disorder the cause of which lies deep in the subconscious.

In the closing address of the meeting, Dr. Kluth of Kassel contrasted the nature cure method with a menaced specialty of the old school, surgery. The knife will always be indispensable to medicine, but surgery too can profit from nature cure science. Psychotherapeutic measures are valuable before an operation. In postoperative treatment the nature cure method may be of importance when the detoxication of the body must be aided by fanning the breath and the transpiration. Thromboses and emboli may thus be avoided. On this subject each patient must be made to understand that health comes from healthy heredity and from living in conformity with nature.

It is a significant fact that Dr. Wagner, the reichsaerztefuehrer, has accepted all the claims of the new movement. In order that all physicians may become better acquainted with therapeutic methods of nature cure medicine, an increase in the number of available sick wards wherein these methods may be practiced is indicated. As a sign of cooperative effort it is to be noted that the 1936 convention of the German Society for Internal Medicine will be held at Wiesbaden in conjunction with the convention of the reichsarbeitsgemeinschaft for new German medicine.

In the proceedings, several professors of the Berlin Medical Faculty also participated, among them the surgeon Professor Magnus and the gynecologist Professor Wagner.

VIENNA

(From Our Regular Correspondent)

Feb. 22, 1936.

Preservation of Menstruation After Hysterectomy

At a recent meeting of the Vienna Physicians' Society, Professors Kraul and O. Frankl presented five female patients in whom it had been possible by plastic implantation of uterine mucosa to maintain the menses following supravaginal hysterectomies performed on account of myomas. The oldest case dates back four and one-half years. Heretofore this operation, like total extirpation, was always followed by permanent amenorrhea. All discussion of the physiologic need for uterine bleeding aside, it is a known fact that the menses have a great psychologic importance. Although the majority of women without a uterus feel well most of the time so long as the ovaries are functioning normally, others exhibit, together with postoperative amenorrhea, serious psychic disturbance and an inferiority complex. The idea that a monthly discharge constitutes a sine qua non of genuine health is with the latter deeply rooted despite assurances that on the ovaries rather than the uterus depends the presence or lack of complete femininity. It is likewise true that myomas are often successfully enucleated and the uterus left intact or, by extremely high supravaginal amputation, the menstruating uterine mucosa is preserved. As Frankl was able to demonstrate, the objective may be attained with the use of only a small implant. Many surgeons have endeavored in postoperative amenorrhea to implant endometrium in the fundus of the vagina or in the cervical stump. However, these implants in most cases soon underwent resorption. Now excellent results have been obtained by a new method. This consists of the implantation, after supravaginal amputation at the normal height, of a pedunculated flap of uterine mucosa (if possible from the posterior wall) in the freshened cervical canal. This flap usually heals over satisfactorily. From four to five weeks later the patient experiences a feeble beginning of menstruation which later becomes about normal. This modification of the customary myomectomy is not indicated in all cases. It does not increase the danger of the operation, however, and gives rise to no intrinsic complications. Should an attempt at plastic implantation of endometrium tissue fail, the patient has certainly suffered no injury; if it succeeds, the effect on morale is considerable. There are two methods that interference in cases of (bleeding) myomas may follow: the radical method of total extirpation, and the conservative method based on preservation of the uterus at any cost. Higher morbidity and mortality must be expected when the latter method is employed. Conservative surgeons are perhaps justified in the opinion that menstruation in addition to its other functions acts as a drainage valve for the supposed "menotoxins" and for premenstrual hyperemia of the pelvic organs. At all events, the Kraul-Frankl transplantation may

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cause even the conservatives to decide more readily on a method of myomectomy which, although more radical, shows more consideration for the patient. In the discussion following the demonstration, the gynecologist Professor Adler said he welcomed the new procedure. Opinion was almost entirely favorable to a method of transplantation presenting such slight technical difficulties and of such psychologic benefit to the patient.

The Sense of Direction in Drivers

Official investigations of traffic accidents have repeatedly shown that drivers may hear the warning signal of a second vehicle well enough and yet turn out in the wrong direction and later maintain that the signal came from the opposite side. In most of the countries where drivers are submitted to rigorous examinations it is required not only that the candidates be able to hear well but that they be able to distinguish the direction from which a given signal comes. Preliminary tests showed to every one's amazement that only 50 per cent of the candidates having normal hearing were able on a crowded square to state from which direction a signal came. The question then arose: Is deficient "direction hearing" in human beings due to a loss of mobility of the auditory membrane over a span of thousands of years or can the deficiency be explained in terms of time differentiation and sound differentiation between hearing in the right and left ears? Subsequent tests demonstrated that the fault lay not in the sensory organ but in the local urban conditions. A sound coming from behind and reflected by a house on the right will pierce the right ear more forcefully, so that the driver believes the sound to come from that direction. When the tests were made on a wide treeless flying field, the number of errors was reduced to 7 per cent. On a completely reflex-free plain the number sank to zero. The reason why so many persons of normal hearing made such a poor showing in the examinations is simply and solely the reflection of sound in a big city. The city is to the ear, as it were, an acoustic maze of many sound-reflex surfaces. The examination of drivers in "direction hearing" is therefore without practical value.

High Mortality Among Viennese Physicians

The figures for recent years reveal that the death rate among physicians in Vienna is higher than the mortality rate of the entire population. During the last five years 13 per cent of the inhabitants died on the average each year (about 24,000 of 1,866,000). At the same time the number of old persons (over the age of 65) constantly increased. The membership of the Viennese medical profession increased during this quinquennium from 3,846 to 4,042. The mortality for the profession, however, amounted to more than 16 per cent and in recent months two or three eminent physicians passed away almost every week while in full bloom in their professional activities (between the ages of 55 and 65). No exhaustion of the supply has been perceptible, and the newer generation seems to be well enough represented numerically. Yet the formerly well established increase in the duration of life has come to a standstill, since the number of physicians over the age of 70 does not noticeably increase. Doctors engaged in academic activities, that is, those who are members of the teaching staff of the medical school, seem to pass away more prematurely than the others. Three prominent physicians have died recently, one after the other; Docent Dr. Breuer, the internist and chief physician of the Rothschild Jewish Hospital, at the age of 67; Professor Dr. Karplus, aged 70, a neurologist, and Dr. Dehne, head physician of the Vienna Municipal Children's Hospital, aged 55. All three men were distinguished teachers and representative research workers; all three were exhausted by the twofold duties of teacher and practitioner.

Marriages

FRANCIS HENRY MCGOVERN to Miss Rebecca Cash Lee, both of Milwaukee, at Ivy Depot, Va., February 7.

RUTH J. FRANK, Spartanburg, S. C., to William Leonard Pugh, Ph.D., at Wooster, Ohio, Dec. 23, 1935.

STEPHEN MATTHEW LIANA, Linden, N. J., to Miss Leona Bernice Budryk of Paterson, Nov. 28, 1935.

WILLIAM TURNER RAY, Charlotte, N. C., to Miss Harriett Mangum of Wake Forest, February 11.

DAVE B. RUSKIN, Fairgrove, Mich., to Miss Florence Ruttenburg of Dayton, Ohio, January 26.

CLARENCE VEARN PARTRIDGE to Miss Edith Anne Pritchard, both of Mobile, Ala., January 21.

EDWIN P. PRESTON, Miami Beach, Fla., to Miss Josephine Montanus of Coral Gables recently.

Deaths

Albert Moore Barrett ● professor of psychiatry, University of Michigan Medical School, Ann Arbor, and director of the State Psychopathic Hospital, Ann Arbor, died, April 2, of coronary occlusion, aged 64. Dr. Barrett was born in Austin, Ill., July 15, 1871. He was educated at the State University of Iowa, Iowa City, where he received his A.B. degree in 1893 and his M.D. in 1895, and studied at the University of Heidelberg, Germany, from 1901 to 1902. In 1895 he became pathologist at the Independence (Iowa) State Hospital for Insane and served in that capacity until 1901; he was assistant physician to the Worcester (Mass.) Insane Hospital from 1897 to 1898 and pathologist to the Danvers (Mass.) State Hospital from 1901 to 1905. He was assistant in neuropathology at Harvard during 1905 and 1906. In 1906 he was called to the University of Michigan to organize the first university hospital and clinic in America for mental diseases. In the same year he was appointed associate professor of neuropathology at the university and medical director of the psychopathic hospital. He was professor of psychiatry and nervous diseases at Michigan from 1907 to 1920 and since 1920 had been professor of psychiatry. He was a past president of the American Psychiatric Association and the American Psychopathological Association and a member of the American Neurological Association, Association for Research in Nervous and Mental Disease, and the Central Neuropsychiatric Association. Dr. Barrett was also a member of the Medical Council of the U. S. Veterans Bureau.

Ernst August Sommer, Portland, Ore.; Willamette University Medical Department, Salem, 1890; in 1929 elected vice president of the American Medical Association; member and past president of the Oregon State Medical Society and the Pacific Coast Surgical Association; member of the North Pacific Surgical Association; a founder, a governor and past regent of the American College of Surgeons; emeritus professor of surgery, University of Oregon Medical School; formerly mayor of Oregon City; at one time member of the school board of Portland; served during the World War; chief surgeon to the Pacific Northwest Public Service Company; aged 66; on the staff of St. Vincent's Hospital, where he died, March 15.

Frank Stuart Mathews ● New York; College of Physicians and Surgeons, Medical Department of Columbia College, New York, 1893; clinical professor of surgery at his alma mater; member of the American Surgical Association; fellow of the American College of Surgeons; at various times on the staffs of the Home for Incurables, Hospital for the Ruptured and Crippled, St. Luke's Hospital and St. Mary's Free Hospital for Children, New York, Lawrence Hospital, Bronxville, and the Mountainside Hospital, Montclair, N. J.; aged 66; died, February 17, of heart disease.

Nathan Edmondson Berry Iglehart ● Baltimore; University of Maryland School of Medicine, Baltimore, 1889; assistant in surgery, Johns Hopkins University School of Medicine, 1901-1909, and instructor, 1909-1918; on the staffs of the Johns Hopkins Hospital, Church Home and Infirmary, Woman's Hospital of Maryland, Union Memorial Hospital and the Bon Secours Hospital; aged 68; died, February 1, of coronary thrombosis.

Benjamin Franklin Largent, McKinney, Texas; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1910; member of the State Medical Association of Texas; past president and secretary of the Collin

County Medical Society; fellow of the American College of Surgeons; served during the World War; surgeon to the McKinney City Hospital; aged 49; died, January 17, in a hospital at Dallas, of cerebral hemorrhage.

Horace Packard, Boston; Boston University School of Medicine, 1880; member of the Massachusetts Medical Society; professor emeritus of surgery at his alma mater; a founder, formerly vice president and fellow of the American College of Surgeons; consulting surgeon to the Massachusetts Memorial Hospitals; member of the national committee of medical defense during the World War; aged 80; died, January 24, in Stoughton, Mass.

Hugo Otto Pantzer, Indianapolis; Medical College of Indiana, Indianapolis, 1881; past president of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons; fellow of the American College of Surgeons; formerly clinical professor of gynecology, Indiana University School of Medicine; aged 77; died, February 14, in St. Vincent's Hospital, of complications following a hip injury suffered in a fall.

Charles L. Minor ● Springfield, Ohio; Miami Medical College, Cincinnati, 1897; member of the American Academy of Ophthalmology; fellow of the American College of Surgeons; on the staffs of the Rickly Memorial Hospital and the Springfield City Hospital; aged 60; died suddenly, February 18.

George Alexander McCracken, Woodville, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1905; member of the Medical Society of the State of Pennsylvania; medical superintendent of the Allegheny County Home and Hospital; aged 61; died, January 24, of carcinoma of the parotid gland.

Frederick Charles Kress ● Johnstown, Pa.; Jefferson Medical College of Philadelphia, 1897; fellow of the American College of Surgeons; formerly president of the board of health of Lilly; aged 63; on the staff of the Mercy Hospital, where he died, January 25, of a ruptured appendix and peritonitis.

Gustaf Richard Egeland ● Sturgeon Bay, Wis.; Northwestern University Medical School, Chicago, 1903; fellow of the American College of Surgeons; owner and medical superintendent of a hospital bearing his name; aged 59; died, January 30, in San Marino, Calif., of angina pectoris.

Walter Eugene Rahte ● New York; University of Pennsylvania Department of Medicine, Philadelphia, 1901; formerly on the staff of the West Side Hospital and Dispensary; aged 59; died, January 29, in Milwaukee, of coronary thrombosis and chronic myocarditis.

John Vincent Ward Jr., Weehawken, N. J.; Columbia University College of Physicians and Surgeons, New York, 1924; served during the World War; on the staff of St. Mary's Hospital, Hoboken; aged 37; died, February 26, of carbon monoxide poisoning.

William Otey McCabe ● Thaxton, Va.; Baltimore Medical College, 1892; University College of Medicine, Richmond, Va., 1894; past president and secretary of the Bedford County Medical Society; aged 65; died, January 18, of coronary occlusion.

Henry Stephen Fletcher, Chicago; Dearborn Medical College, Chicago, 1907; formerly on the staff of the Welles Park Hospital; aged 63; died, January 20, in the Augustana Hospital, of ascending urinary infection and prostatic hypertrophy.

Thomas Conner Gorman ● Cedar Rapids, Iowa; Rush Medical College, Chicago, 1897; on the visiting staff of the Mercy Hospital and on the staff of the St. Luke's Methodist Hospital; aged 61; died, January 24, of cerebral hemorrhage.

Howard Kemp Eaman ● Bradford, Pa.; Maryland Medical College, Baltimore, 1910; past president of the McKean County Medical Society; aged 50; on the staff of the Bradford Hospital, where he died suddenly, January 22, of heart disease.

Joseph Cabell Jett, Spring Dale, W. Va.; University of the South Medical Department, Sewanee, Tenn., 1904; member of the West Virginia State Medical Association; aged 56; died, January 19, in a hospital at Baltimore.

Harry Moore Felton, Pittsburgh; University of Maryland School of Medicine, Baltimore, 1905; member of the Medical Society of the State of Pennsylvania; aged 53; died, January 23, of chronic myocarditis and coronary occlusion.

John Joseph Greer, Knoxville, Tenn.; Vanderbilt University School of Medicine, Nashville, 1917; member of the Tennessee State Medical Association; served during the World War; aged 43; died, January 12, of pneumonia.

Hugh E. Cureton, Conway, Ark.; Arkansas Industrial University Medical Department, Little Rock, 1895; member of the Arkansas Medical Society; also a pharmacist; aged 68; died suddenly, February 14, of angina pectoris.

George I. Inlow, Manila, Ind.; Kentucky School of Medicine, Louisville, 1897; member of the Indiana State Medical Association; for many years coroner of Shelby County; aged 61; died, January 22, of parkinsonism.

John William Hess, Adell, Wis.; Wisconsin College of Physicians and Surgeons, Milwaukee, 1910; on the staff of the Sheboygan Memorial Hospital; aged 54; died in Sheboygan, January 18, of coronary sclerosis.

Patrick P. Boggan, Forrest City, Ark.; Louisville (Ky.) Medical College, 1874; member of the Arkansas Medical Society; health officer of Forrest City; aged 83; died, February 3, of cerebral hemorrhage.

James Franklin Gullic, Koshkonong, Mo.; Memphis (Tenn.) Hospital Medical College, 1903; member of the Missouri State Medical Association; aged 56; died, January 17, of carcinoma of the breast.

Oley Alphonso Britell ● Whitefish, Mont.; Rush Medical College, Chicago, 1903; served during the World War; aged 57; died, February 7, of pneumonia and coronary occlusion.

Grover Augustus Stem, Baltimore; University of Maryland School of Medicine, Baltimore, 1912; aged 46; died, February 5, in the Maryland General Hospital, of pneumonia.

J. Willard Parrish, Shelbyville, Ind.; Medical College of Indiana, Indianapolis, 1896; for many years county health officer; aged 76; died, January 25, of myocarditis.

Donald Wright Broadbent, Philadelphia; Temple University School of Medicine, Philadelphia, 1925; aged 39; died suddenly, January 24, of coronary thrombosis.

Francis Vaughan Fowlkes ● Richmond, Va.; University of Maryland School of Medicine, Baltimore, 1887; aged 68; died, January 20, of cerebral hemorrhage.

George Peter Michel ● Buffalo; University of Buffalo School of Medicine, 1912; aged 56; died, Dec. 17, 1935, in Cleveland, of rheumatic heart disease.

James W. Sams, Crestwood, Ky.; Hospital College of Medicine, Louisville, 1901; aged 58; died, January 13, in Peoria, Ill., of an accidental gunshot wound.

Robert Clement Moakley, Lexington, Mass.; College of Physicians and Surgeons, Boston, 1915; aged 58; died, January 30, of carcinoma of the pharynx.

Lester Parker Hall, Dixon, Calif.; Cooper Medical College, San Francisco, 1897; aged 60; died, January 26, of pneumonia and cerebral hemorrhage.

Joanna Gaston Leary, Elizabeth, N. J.; New York Medical College and Hospital for Women, 1887; aged 84; died, January 25, of chronic myocarditis.

Ada A. Fowler, Marion, Ind.; Hahnemann Medical College and Hospital, Chicago, 1889; aged 77; died, January 23, of carcinoma of the breast.

Marion Crawford Aker, Ritzville, Wash.; Indiana University School of Medicine, Indianapolis, 1934; aged 30; died, January 20, of pneumonia.

Henry Andrew Benz, Northbrook, Ill.; Rush Medical College, Chicago, 1888; aged 72; died, Dec. 7, 1935, in Chicago, of prostatic hypertrophy.

William D. Rogers, Coalmont, Tenn.; Atlanta Medical College, 1894; aged 68; died, January 20, in a hospital at Chattanooga, of pneumonia.

David Dee Goldberg, St. Louis; St. Louis College of Physicians and Surgeons, 1899; aged 63; died suddenly, January 23, of angina pectoris.

John Joseph Spottiswood, Mill Valley, Calif.; Cooper Medical College, San Francisco, 1894; aged 64; died, January 14, of portal cirrhosis.

William Homer Sitton ● Osceola, Mo.; Eclectic Medical University, Kansas City, 1903; aged 54; died, January 23, of acute nephritis.

Clarence M. McConkey, Otis, Kan.; University Medical College of Kansas City, Mo., 1905; aged 63; died, January 3, of influenza.

Frank Ramey, East Point, Ky.; Louisville Medical College, 1892; aged 69; died, January 21, of cerebral hemorrhage.

John William Fox, Edinburg, Pa.; Maryland Medical College, Baltimore, 1911; aged 57; died, February 8, of pneumonia.

Omer M. Willis, Metropolis, Ill.; St. Louis College of Physicians and Surgeons, 1898; aged 59; died, January 8.

L. Otley Pindar, Versailles, Ky.; Medical College of Ohio, Cincinnati, 1891; aged 65; died, January 2.

Mark O. Pardee, Franklin, Ohio; Cleveland Medical College, 1895; aged 67; died, January 15.

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Correspondence

PREGNANCY FOLLOWING SLOUGHING OF CESAREAN UTERINE SUTURES

To the Editor:—In THE JOURNAL, May 7, 1932, I described the passing, through the vagina, of the entire continuous interlocked catgut suture which had been placed on the outer surface of the uterus during the performance of a low cervical cesarean section, and stated that because of the good apposition of the thickened walls of the uterus it was likely that union would be good despite loss of the suture and ischemic tissues caught within. Since no rupture of the uterus during pregnancy had been reported following low cervical cesarean section, and since uteri have often been sutured tightly enough to cause ischemia of the tissues at the wound, I have felt the prognosis for the next pregnancy to be favorable if section was performed without onset of actual labor.

A short time following this publication, Dr. Irving F. Stein of Chicago stated that the uterus was likely to rupture during a subsequent pregnancy or labor; also Dr. D. A. Horner of Chicago reported a case in which the layers of continuous uterine sutures were passed in the lochia on the tenth day, followed by uneventful recovery.

Dec. 19, 1935, four years and forty-eight days after the passage of the uterine sutures through the vagina, the patient was again delivered by low cervical cesarean section. Pregnancy had proceeded uneventfully except for a tenderness in the lower part of the abdomen and the back. During the last few weeks the patient became restless and complained of pain in the pelvis and distention of the external genitalia. At section a few adhesions were found, but the old scar in the cervix could be located only with difficulty. The lower uterine segment was apparently normal. Tubal sterilization was done. Recovery was uneventful.

HARRY S. FIST, M.D., Los Angeles.

PURKINJE

To the Editor:—A short while ago I was perusing THE JOURNAL of Nov. 24, 1934, and on page 1583 came across the following excerpt from the Harveian oration by James Collier: "In 1835 Purkinje, an Austrian priest of Gipsy family. . . ." This is reprinted from the *British Medical Journal*. The original paper was published also in the *Lancet*, Oct. 20, 1934. May I call attention to the enclosed reprint from the *Lancet* of Nov. 3, 1934, which contains my exact statement of the facts with regard to Purkinje, his family and his work.

To call J. E. Purkinje a gipsy evokes, if I may put it that way, an almost distressing feeling, for Purkinje was one of the greatest men from our countries, in fact one of the greatest physiologists, or better to say, scientists in the realm of medicine of the last century. J. Ev. Purkinje was born on Dec. 17th, 1787, in Libochovice in Bohemia—Bohemia is a country of Czechoslovakia in the same sense as Wales is a part of Great Britain—and was of Czech parentage. For a short, yet excellent, biography of Purkinje in English see the well-known "History of Medicine" by Fielding H. Garrison. London: Saunders, 1917, p. 475 et seq. of the second edition which I have to hand.

It is really bad luck about J. E. Purkinje, for the American Illustrated Medical Dictionary by Dorland, the twelfth edition of which I have, makes the incorrect statement that Purkinje was a Hungarian physiologist and that he died in 1850. In fact he was of Czech parentage and died in Prague in 1869. The editor of this dictionary promised on my request to correct it in the next edition.

Anthropological Institute, Masaryk University.

PROF. VOJTĚCH SUK, M.D., PH.D.,
Brno, Czechoslovakia.

"RECURRENCE OF INOCULATION MALARIA"

To the Editor:—Dr. M. C. Petersen in a recent article (THE JOURNAL, March 7, p. 775) refers to the "recurrence of inoculation malaria." This emphasizes the importance of using a malarial strain in which no sexual forms of the parasite are found. In a series of articles published in the *American Journal of the Medical Sciences* **176**:664 (Nov.) 1928, **179**:800 (June) 1930 and **184**:262 (Aug.) 1932, my associates and I have shown that approximately two and a half years is required to obtain a true biologic adaptation of the malarial parasite from a strain in which gametocytes occur to one in which they are absent. This has been done under the auspices of the New York State Psychiatric Institute and Hospital by continuous human passage of a sexual strain of malaria.

By using a strain of malaria in which no sexual forms are present, the possibility of transmission of malaria by mosquitoes to other persons is precluded and furthermore the asexual forms of the malarial parasite yield much more readily to quinine than do the sexual forms.

NICHOLAS KOPELOFF, PH.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

THE IMMUNIZATION OF INFANTS AND CHILDREN

To the Editor:—I have been immunizing a nurse, aged 23, against scarlet fever with the Parke, Davis toxin. There was no reaction following the first injection. A generalized rash and malaise followed the second injection. The third injection caused malaise, rash, headache, joint pains and a generalized edema, most marked in the face. Would you advise continuation of the immunization? If so, should the usual dose be given? In the case of an interval of two or more weeks between injections, how should one proceed to complete the immunization? The patient states that she has an idiosyncrasy to epinephrine, so this drug has not been administered with the toxin. Will you please advise a plan of immunization, for infants and children, against typhoid fever, scarlet fever, smallpox and diphtheria? Please give age when they should preferably be started and amount of the typhoid vaccine that should be used for infants and young children. Kindly omit name.

M.D., Utah.

ANSWER.—The nurse is sensitive to proteins contained in the veal broth used for production of scarlet fever toxin. It is probably advisable to discontinue immunization in such persons if they have an idiosyncrasy to epinephrine.

The exact procedure in immunizing infants and children depends on the circumstances. If there is no known exposure to any of the diseases mentioned, smallpox vaccination is usually done first. Scarlet fever and diphtheria immunization may be given between 6 months and a year of age, and in case of exposure younger infants may be immunized. The reactions are less severe if the scarlet fever immunization precedes diphtheria immunization. The protection afforded by typhoid vaccine is not permanent and cases of typhoid in infants are uncommon. If the sanitary conditions in the community are good, there is no need to vaccinate against typhoid until it appears in the community or the child is going to eat away from home.

TREATMENT OF ANAL FISSURE BY INJECTION

To the Editor:—I believe that anal fissures are being treated by injection, as with quinine and urea, but I am unable to get a description of the technic. Will you kindly describe this technic?

ROBERT HARTWELL, M.D., Beaumont, Calif.

ANSWER.—The treatment of anal fissure by injection was first described by Graham in 1923. In 1926 he reported the results in 128 cases and described his technic. He uses a small glass syringe to which he attaches a 27 gage needle and injects a 5 per cent solution of freshly prepared quinine and urea. The point of the needle is inserted about 5 mm. away from the external margin of the fissure and the solution is injected beneath the base of the ulcer in such a manner as to raise it throughout its entire extent. About 1 cc. of the solu-

tion is usually necessary. The patient experiences "rather severe pain" during the treatment, but on its completion local anesthesia has been produced. It is stated that during the following ten days or two weeks topical applications of silver nitrate and other medicaments can be made without causing pain and that the spasticity of the sphincter disappears. The treatment is usually completed in from two to three weeks.

This type of treatment has been advised in cases in which only the fissure is present. If external or internal hemorrhoids or other pathologic conditions requiring surgical treatment are found, it is better to include the fissure in the operation. Modifications of this type of treatment have been advocated. The object of these modifications has been to alter the solution in such a manner as to render the injection itself painless.

CARBON MONOXIDE HEADACHE IN GARAGE WORKERS

To the Editor:—What can be done for frequent headaches that are common in garage workers as the result of the fumes of gasoline from the exhaust of automobiles? Acetylsalicylic acid gives no relief. Please advise treatment for these headaches, both prophylactic and symptomatic or curative. Can you list references on by-products of gasoline combustion which are the probable etiologic factors? Please omit name if published.

M.D., Pennsylvania.

ANSWER.—The foremost source of headaches in garages is carbon monoxide. The average composition of automobile exhaust gas when the cars are operating on a level grade is:

Carbon dioxide	8.6%
Oxygen	2.2%
Carbon monoxide	6.3%
Methane	0.9%
Hydrogen	3.0%
Nitrogen	78.6%

When motors are operating in garages, the percentage of carbon monoxide may be appreciably higher, particularly when the motors are first started, especially if the garage is unheated.

Evaporating motor fuels are second in order of importance as a source of headache. Gasoline represents a complex mixture of petroleum hydrocarbons but chiefly consists of pentane, hexane and heptane. Chief of these is hexane.

One gallon of gasoline burned in an automobile motor under specified conditions as to atmospheric temperatures and pressure produces 988 cubic feet of exhaust gas. It is computable that 62.2 cubic feet of carbon monoxide is thus produced. Even small cars discharge as much as 1 cubic foot of carbon monoxide per minute. As 0.01 per cent of carbon monoxide may produce headache, it is at once obvious that dangerous work conditions quickly may be brought about in garages. These statements chiefly are derived from the publication of the New York Academy of Medicine entitled "Carbon Monoxide Poisoning and the Automobile Exhaust," appearing in the Bulletin of the New York Academy of Medicine, August 1926, page 402. This publication, while old, remains one of the best presentations of the carbon monoxide hazard in garages and connected with the use of automobiles.

When headache is the sole manifestation of carbon monoxide poisoning, symptomatic and curative treatment is of relative unimportance. The obvious procedure is prevention. The concentration of carbon monoxide should be reduced below the threshold of any physiologic response. Motors long operated in the course of repairs should be hooked up with conduits discharging the exhaust gases into the general atmosphere. General exhaust systems should serve to prevent the accumulation of gases within garage areas resulting from the ordinary operation of motors. In most cities adequate testing devices are available, in public health departments or gas companies, suitable for the detection of even traces of carbon monoxide in the atmosphere.

TREATMENT OF SYPHILIS

To the Editor:—I am treating a man, aged 24, for syphilis. The Wassermann and Kahn reactions are four plus. His weight is 160 pounds (73 Kg.). I have given him intravenously eight 0.6 Gm. doses of neoarsphenamine and am now giving him intramuscularly two injections a week of a bismuth preparation. My plan is to alternate the arsenicals and bismuth preparation for one year with no rest period, unless careful checkup necessitates change of plan. Would there be an unfavorable condition likely to arise should I substitute mapharsen for neoarsphenamine in the future treatment of the case?

M.D., Nebraska.

ANSWER.—The continuous system of treatment as planned for the patient for the ensuing year is particularly valuable in the treatment of syphilis in patients who are able to tolerate such intensive types of treatment. Care must be exerted to avoid the development of such treatment complications as dermatitis, hepatitis, neuritis and the blood dyscrasias. The results of the use of the continuous system as a rule are excellent if the patient will follow the system and complications are not encountered.

As mapharsen is a recent development and clinical experience with it has been relatively short, it is too early to pass judgment as to its value. The inquirer has made no mention of how long the patient has had the syphilis, but the fact that he is 24 years of age would indicate that the disease was recently acquired. It would therefore seem advisable to continue to use drugs such as arsphenamine or neoarsphenamine, the value of which has been established by experience with it during the past quarter of a century.

EPIDEMIC STREPTOCOCCIC LARYNGITIS

To the Editor:—For the past year I have been seeing cases the signs and clinical courses of which are suggestive of influenza of a mild type. Accompanying these cases is a markedly injected pharynx, involving the soft palate, uvula, tonsils and postpharyngeal wall. These areas are covered with fine red streaks. Occasionally there are slightly elevated, punctate red spots. No ulcerations are present. At times the uvula and tonsils appear edematous. In most cases in which I have examined the nares, the mucous membrane of the entire nose has the same appearance. Following the administration of salicylates or antipyretics the general symptoms subside in from twenty-four to forty-eight hours. Then in a week or two the patients complain of general asthenia and lassitude and they develop a cough of a spasmodic nature, which occurs on arising in the morning and lying down in the evening. This cough is comparable to that which occurs in pertussis except for the "whoop" that accompanies it. Regardless of the various local applications such as mild silver proteins, silver nitrate and tincture or solution of merthiolate, this injection of the entire throat persists for from four to six months. During this entire period the patient complains of a general feeling of not being well. Am I right in assuming that I am dealing with cases of influenza? Do you think that it is advisable to take cultures of these throats? Can you recommend some measures to hasten recovery or to eradicate the infections from the throats? Please omit name.

M.D., Pennsylvania.

ANSWER.—The description of the course of cases given is similar to that which has appeared in the literature previously, and the usual organism at fault is a hemolytic streptococcus. As there is no statement as to whether a laryngoscopic examination was made, the laryngeal and tracheal involvement can be surmised only by the presence of the obstinate cough that so closely resembles that of pertussis. Only a short time ago the laryngeal aspects of the condition referred to were described in an article by Herbert Tilley and Dan MacKenzie (Epidemic Streptococcic Laryngitis, *Brit. M. J.* 2:3 [July 6] 1935). The course of these cases is protracted; as a rule the temperature at onset is not high and prostration is not great. The cough, which is pertussis-like and violent, may be accompanied by pain due to edema of the larynx. Occasionally, organisms other than the hemolytic streptococcus are present, such as Micrococcus catarrhalis. It would be advisable to take cultures of these throats. It might even be worth while to use a vaccine that is made from cultures in those instances in which convalescence is very slow. However, too much should not be expected from that method of treatment. Chronically inflamed tonsils should be removed and any sinusitis that is present should be cleared up, if possible. Apart from this, time is the greatest factor in the recovery.

SCARLET FEVER TOXIN BY MOUTH

To the Editor:—In your issue of October 26 in reply to an inquiry as to the effect of swallowing scarlet fever toxin you say: "If the child was previously susceptible to scarlet fever and swallowed such an amount of toxin he has partially or completely immunized himself against the disease. It will do no harm. No treatment is indicated." If this is true why go to the trouble of five weekly injections with the possibility of severe reactions to produce immunity? Also if this is true why can't this toxin be used by mouth in treatment of the disease?

EDWIN L. DRAPER, M.D., Champaign, Ill.

ANSWER.—In an article entitled "Antitoxic Immunity Resulting from Administration of Toxin by Mouth" (THE JOURNAL, April 23, 1932, p. 1436) George F. and Gladys Henry Dick concluded that toxin administered by mouth may stimulate production of the corresponding antitoxin but that toxin administered by mouth is less efficient than considerably smaller amounts injected subcutaneously. Reactions sometimes occur following mouth administration as they do following hypodermic administration of the toxin. Such reactions in both methods of administration cause no permanent injury and do not require treatment. The principal objection to substituting the administration of toxin by mouth for hypodermic injection is that less than 3 cc. of the undiluted toxin is required completely to immunize more than 90 per cent of susceptible persons by the hypodermic method, while approximately 500 cc. of the undiluted toxin would be necessary to immunize about 70 per cent

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by mouth. It is improbable that mouth immunization will come into general use unless the volume of toxin can be reduced and the percentage immunized increased. At present the method is chiefly employed in such special cases as hemophilia or cardiac decompensation.

VAGUS PRESSURE IN TACHYCARDIA

To the Editor:—Regarding the Query and Minor Note on paroxysmal tachycardia (THE JOURNAL, July 27, p. 302) I see no mention of deep hard vagus pressure in the neck when it comes to treatment. Also there is no mention of any treatment directed toward gastric or abdominal conditions. I happen to have had this disturbance ten or fifteen years ago at the age of 40. Dr. Hugo Freund and several other good men saw me, including the heart man at the Battle Creek Sanitarium. Care in diet and smoking and drinking was all that was suggested. It was not until I was virtually carried into Dr. Harry Schmidt's office with a pulse rate of 200 or more that I was told of vagotonia and to press hard on the vagus nerves. This soon put an end to my trouble and although even now there are slight recurrences two or three times a year they can easily be checked by this procedure. Diet, smoke and drink have their effects in bringing on a gastric or abdominal distention—it seems more like a solar plexus blow—and this seems to me to be the dominant causative factor. This may all be old stuff to you but it was not to me or the many good men that I consulted. M.D., Michigan.

ANSWER.—The point is well taken. Vagus pressure, which is really stimulation of the carotid sinus, will stop the paroxysm of tachycardia in many more than half the cases. The carotid artery is palpated and pressed firmly by the palpating finger at the lever of the bifurcation of the common carotid. Either side may be used, but usually pressure is more efficacious on the left. It is better not to press on the two sides simultaneously. If there is no result, the position of the palpating finger may be changed, up or down, along the course of the artery. It is frequently advisable to teach some member of the family how to stop the attacks by this means, or the patient may be taught to do it himself. There are several other ways of stopping the attacks, such as inducing nausea by tickling the pharynx, swallowing some large bolus, or changing the posture in some particular way. Discussion of this will be found in Vaquez's textbook on the heart. It is interesting to note how many patients have found some way of stopping the attacks themselves. Gastric and abdominal conditions should always be considered, and frequently attention to diet and dietary habits will make the attacks less frequent.

PLASTIC SURGERY OF FACE

To the Editor:—A girl, aged 6, was struck in the face by a board five weeks ago. Inspection of her face at the present time shows a ridge, which begins at the point midway between the corner of the eye and the nostril, runs just below the malar prominence and ends at a point about half way between the corner of the mouth and external auditory meatus. There is no tenderness or discoloration at present. On palpation with a finger inside the mouth the bony structures are found to be apparently normal, while a ridge can be felt in the soft parts of the cheek. The impression from palpation is that of feeling the lower edge of a ruptured muscle which has retracted upward. Please inform me if this is a reasonable supposition and as to the prognosis. The present appearance is disfiguring. Please omit name. M.D., New Hampshire.

ANSWER.—If it was a bony displacement it is too late to correct it without radical cutting of the bone, and if it is in the soft parts nothing is to be gained by any immediate attempted correction. It possibly might be due to a cutting of the muscle but more probably is an infiltration of the soft tissues resulting from overactive efforts at repair. Under any circumstances, nothing is to be lost by observing the case for several months and postponing any surgical correction until all possible natural repair has been accomplished.

FEVER TREATMENT IN SYPHILIS OF THE NERVOUS SYSTEM

To the Editor:—I have a patient with syphilis of the nervous system, the only evidence being the pupillary reflexes. Arsenicals and preparations of bismuth have been given and the blood and spinal fluid Wassermann reactions are negative. He has read of fever therapy and has asked me regarding the complete cure by such a method. What, in your opinion, is the answer to the query? While he is negative now under arsenicals, I do not consider him cured.

GEORGE E. KNAPPENBERGER, M.D., Macomb, Ill.

ANSWER.—This patient is not one that is suitable for fever treatment. The use of arsenicals and bismuth compounds is ample therapy for his mild clinical state and negative serologic reactions.

It is advised that this patient be given long periods of rest between courses of therapy.

Fever treatment is indicated only in dementia paralytica.

HEMANGIOMA OF ADNEXA

To the Editor:—Please advise me what to do for an apparent hemangioma of the left adnexa, revealed by laparotomy. The patient is a woman, aged 27. No other pelvic disorder is present. Is radium or x-ray advised? Please omit name. M.D., Arizona.

ANSWER.—Hemangioma of the adnexa is unusual. If possible, an attempt should be made to remove it surgically. Subsequent treatment would then depend on the microscopic examination of the removed tissue. If it is malignant the pelvis should be thoroughly treated with high voltage x-rays administered from various portals; if benign, radiation therapy need not be instituted. Since the patient is so young, surgical attack may be considered in preference to irradiation so as to avoid an artificial menopause.

TREATMENT OF UTERINE FIBROIDS BY X-RAYS

To the Editor:—In the treatment of uterine fibroids by x-rays, does the tumor entirely disappear when the treatment is satisfactory?

FRANK E. WIEDEMANN, M.D., Terre Haute, Ind.

ANSWER.—Fibroid tumors do not entirely disappear following satisfactory roentgen therapy; they undergo the same sort of involution which occurs at the menopause; that is, there is marked shrinkage in the muscular elements but the fibrous tissue persists. Of course if the fibroids are degenerated, calcified or cystic, little change in their size could be expected after radiation therapy.

FREEMARTIN AND INTERSEXUALITY

To the Editor:—I was told by a stock breeder that in the case of cattle when twins are born, one male and one female, they usually do not reproduce. Does this hold true in man?

MILTON TRAUTMAN, M.D., Prairie du Sac, Wis.

ANSWER.—In cattle, when twins of opposite sex are born, the female of the pair is usually an intersexual individual, called freemartin, and is sterile. The male of the pair is normal and fertile. In man, no comparable situation occurs in connection with twins, but intersexual individuals do occur, the origin of which is not well understood.

BELL'S PALSY

To the Editor:—On page 727 of THE JOURNAL, February 29, I notice two inquiries regarding the treatment of Bell's palsy. Of 337 cases referred to the Department of Physical Therapy at the Vanderbilt Clinic of the Columbia-Presbyterian Medical Center, only 142 cases existing more than two weeks failed to respond to treatment with diathermy and the static wave current. It was necessary to continue treatment for a period greater than twenty-four treatments, using diathermy, galvanic motor point stimulation, massage and exercises before a mirror. Fifty-seven cases sent to the department that had existed less than two weeks responded to a few treatments of light and the static wave current. Ninety-two cases existing under two weeks did not clear up within a period of two weeks and were finally cleared up when galvanic motor point stimulation was added. The remaining cases, considered old cases, cleared up without any galvanic stimulation at all. Merely diathermy and the static wave current were applied. From an experience extending from 1928 to 1936, it is conclusively shown that heat in the form of radiant light or mild diathermy, plus the decongesting effect of the static wave current, is sufficient to bring about prompt relief of symptoms.

Cases of facial paralysis preceding or following mastoid operations do not respond to this treatment but can be successfully treated with the galvanic motor point. As the faradic current is irritating and cannot be measured in its intensity, it has been entirely discarded in my clinic. These cases were all diagnosed by the outpatient department of the Neurological Institute, where electrical reactions were tested, but no matter if the long standing cases did show a reaction of degeneration, galvanic motor point stimulation has been persisted in with most gratifying results. Lifting massage and exercises in front of a mirror twice a day at home by the patient are considered of great importance, but by far the most important factor in the treatment of Bell's palsy is the early institution of decongestive therapy.

NORMAN E. TITUS, M.D., New York.

PERSISTENT SUPERFICIAL INFECTION

To the Editor:—In THE JOURNAL, February 22, in Queries and Minor Notes, there is an inquiry under the heading Persistent Superficial Infection. While it is always hazardous to express an opinion and give advice in absentia, I shall nonetheless endeavor to do this in the hope of really offering the patient in question and others similarly afflicted relief. The noncommittal answer to the inquiry further justifies this procedure. This is not the place for a detailed discussion of a diagnosis; for that I would refer the inquirer to an article published by me in 1930 on recurrent lymphangitis (*Minnesota Med.* 13:902 [Dec.] 1930). The treatment consists of the injection of foreign protein intravenously and filtered roentgen therapy locally. My results by these methods have been eminently satisfactory.

WILLIAM H. GOECKERMAN, M.D., Los Angeles.

Medical Examinations and Licensure

COMING EXAMINATIONS

STATE AND TERRITORIAL BOARDS

ARKANSAS: *Medical (Regular).* Little Rock, May 12-13. Sec., State Medical Board of the Arkansas Medical Society, Dr. A. S. Buchanan, Prescott. *Medical (Eclectic).* Little Rock, May 12. Sec., Dr. Clarence H. Young, 207½ Main St., Little Rock.

CALIFORNIA: *Reciprocity.* San Francisco, May 13. Sec., Dr. Charles B. Pinkham, 420 State Office Bldg., Sacramento.

HAWAII: Honolulu, April 13-16. Sec., Dr. James A. Morgan, 48 Alexander Young Bldg., Honolulu.

IOWA, *Basic Science.* Des Moines, April 14. Sec., Prof. Edward A. Benbrook, Iowa State College, Ames.

MINNESOTA: Minneapolis, April 21-23. Sec., Dr. Julian F. Du Bois, 350 St. Peter St., St. Paul.

NEBRASKA: *Basic Science.* Omaha, May 5-6. Dir., Bureau of Examining Boards, Mrs. Clark Perkins, State House, Lincoln.

NEW MEXICO: Santa Fe, April 13-14. Sec., Dr. E. LeGrand Ward, Sena Plaza, Santa Fe.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS. *Parts I and II.* May 6-8, June 22-24, and Sept. 14-16. Ex. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia.

SPECIAL BOARDS

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOGY: *Oral examination for Group A and B applicants* will be held in Kansas City, Mo., May 11-12. Sec., Dr. C. Guy Lane, 416 Marlboro St., Boston.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: Oral, clinical and pathological examination of all candidates will be held in Kansas City, Mo., May 11-12. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh. (6).

AMERICAN BOARD OF OPHTHALMOLOGY: Kansas City, Mo., May 11 and New York, Sept. 26. *All applications and case reports must be filed sixty days before date of examination.* Asst. Sec., Dr. Thomas D. Allen, 122 S. Michigan Ave., Chicago.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: Kansas City, Mo., May 11. Sec., Dr. Fremont A. Chandler, 180 N. Michigan Ave., Chicago.

AMERICAN BOARD OF OTOLARYNGOLOGY: Kansas City, Mo., May 9. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

AMERICAN BOARD OF PEDIATRICS: Kansas City, Mo., May 9, Albany, N. Y., June 10, Baltimore and Cincinnati in November. Sec., Dr. C. A. Aldrich, 723 Elm St., Winnetka, Ill.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: St. Louis, Mo., May 8-9. Sec., Dr. Walter Freeman, 1028 Connecticut Ave., Washington, D. C.

AMERICAN BOARD OF RADIOLOGY: Kansas City, Mo., May 8-10. Sec., Dr. B. R. Kirklin, Mayo Clinic, Rochester, Minn.

AMERICAN BOARD OF UROLOGY: Kansas City, Mo., May 8-10. Sec., Dr. Gilbert J. Thomas, 1009 Nicollet Ave., Minneapolis.

Connecticut November Examinations

Dr. Thomas P. Murdock, secretary, Connecticut Medical Examining Board, reports the written examination held at Hartford, Nov. 12-13, 1935. The examination covered 9 subjects and included 70 questions. An average of 75 per cent was required to pass. Twenty-four candidates were examined, 19 of whom passed and 5 failed. The following schools were represented:

PASSED School	Year Grad.	Per Cent
Yale University School of Medicine	(1934) 79.6, (1935)	79.2*
George Washington University School of Medicine	(1934)	75*
Northwestern University Medical School	(1924)	75
Rush Medical College	(1932)	76.4
University of Louisville School of Medicine	(1934)	77
Boston Univ. School of Medicine	(1929) 75, (1933) 79, (1935)	75.9*
Harvard University Medical School	(1934)	80*
Tufts College Medical School	(1934) 77.4, (1935)	73.7*
University of Michigan Medical School	(1935)	80.3
University of Nebraska College of Medicine	(1930)	82.1
Columbia Univ. College of Physicians and Surgeons	(1934) (1935) 82.3	83.7,*
University of Rochester School of Medicine	(1930)	76.5
Jefferson Medical College of Philadelphia	(1934)	75
University of Edinburgh Faculty of Medicine	(1934)	75.2

FAILED School	Year Grad.	Number Failed
Tufts College Medical School	(1935)	1
University of Vermont College of Medicine	(1912)	1
Osteopaths †		3

Twenty-two physicians were successful in the oral examination held at Hartford, November 26, for endorsement applicants. The following schools were represented:

PASSED School	Year Grad.	Endorsement of
University of California Medical School	(1926)	Rhode Island
Colorado School of Medicine	(1906)	Colorado
Yale Univ. School of Medicine	(1933),* (1933), (1934, 2)	N. B. M. Ex.
Tulane University of Louisiana School of Medicine	(1923)	Rhode Island
Harvard University Medical School	(1933)	N. B. M. Ex.
Tufts College Medical School	(1932)	Rhode Island
(1933, 2), (1934)		N. B. M. Ex.
University of Michigan Department of Medicine and Surgery	(1906)*	New York
Columbia University College of Physicians and Surgeons	(1932), (1933)	N. B. M. Ex.
Long Island College Hospital	(1892)*	New York
Vanderbilt University School of Medicine	(1931)	Tennessee
University of Texas School of Medicine	(1926)	Texas
University of Vermont College of Medicine	(1932),* (1933)	N. B. M. Ex.
Queen's University Faculty of Medicine	(1928)	Mass.
University of Edinburgh Faculty of Medicine	(1932)	N. B. M. Ex.

* License has not been issued.
† Examined in medicine and surgery.

Book Notices

The Treatment of Diabetes Mellitus. By Elliott P. Joslin, M.D., M.A., Medical Director, George F. Baker Clinic, New England Deaconess Hospital, Boston. With the coöperation of Howard F. Root, M.D., Priscilla White, M.D., and Alexander Marble, M.D. Fifth edition. Cloth. Price, $6. Pp. 639, with 9 illustrations. Philadelphia: Lea & Febiger, 1935.

For nearly twenty years, Joslin's "Treatment of Diabetes" has been the authoritative work in English on this subject, and the present edition, written with the coöperation of his associates Drs. Howard F. Root, Priscilla White and Alexander Marble, is no exception.

Prior to the advent of insulin, the major problem in the treatment of diabetes was the control of glycosuria and its attendant symptoms. Complications such as carbuncles and tuberculosis were fatal, but degenerative arterial lesions incident to diabetes of long standing constituted a comparatively minor problem because few patients with severe diabetes survived long enough for such complications to develop. At present, with insulin, the control of glycosuria is possible with the use of any one of a number of widely different diets; nevertheless, the incidence of arterial disease has greatly increased and its prevention has become almost the chief concern of the clinician. Furthermore, many complications that formerly were almost invariably fatal to persons with diabetes are now amenable to treatment and carry a mortality only slightly greater than they affect persons without diabetes.

As one would anticipate, these changes in the nature of the diabetic problem are reflected in Joslin's new edition. For example, entire chapters are devoted to complications occurring in the digestive, nervous and genito-urinary systems and in the organs of special sense, as well as to tuberculosis, cancer, syphilis and diseases of the blood and skin affecting diabetic patients. As in previous editions, the problems incident to juvenile diabetes, infections, surgery and pregnancy in diabetes are discussed in detail.

In dealing with the relative merits of the high-carbohydrate low-fat diet versus the low-carbohydrate high-fat diet, Joslin is inclined to pursue and recommend a middle course. The diets that he used in 1935 contained on an average about 150 Gm. of carbohydrate. His attitude toward the problem can best be expressed in his own words: "Insulin and the use of the principle of undernutrition make the high-carbohydrate low-fat diet possible, and now it is simply a question of time to determine whether patients with equally severe diabetes living upon diets containing more than 200 grams of carbohydrate will be better off at the end of ten or twenty years than those who have lived upon a somewhat lower value. The introduction of these diets has resulted in substantially raising the carbohydrate in the ration of the author's cases and of practically all diabetics throughout the world. However, we must wait for end-results." Unquestionably his judgment here is sound.

As in previous editions also, Joslin objects to diets high in fat on the ground that a disturbed lipid metabolism is responsible for the high incidence of arteriosclerosis among patients with diabetes. For example, in the chapter on cardiovascular diseases, revised by Root, this statement occurs: "I believe the chief cause of premature development of arteriosclerosis in diabetes, save for advancing age, is due to an excess of fat in the body (obesity), in the diet, and in the blood. With an excess of fat diabetes begins and from an excess of fat diabetics die, formerly of coma, recently of arteriosclerosis." Further on in the same section he says: "Can it be that the prevalence of arteriosclerosis in diabetes is to be attributed to the high-fat and high-cholesterol diets we have prescribed? This may be the case. At any rate it is reasonable to maintain the cholesterol in the blood of our patients at a normal level, and that I shall strive to do." It is apparent that Joslin was, and still is, impressed by Aschoff's modification of Virchow's imbibition theory of arteriosclerosis, which attributes arteriosclerosis to

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physiologic strain and the imbibition by the arterial walls of plasma containing excessive amounts of lipids, especially cholesterol.

To many students of metabolism this theory of arteriosclerosis has never been very satisfying, and recently it has been subjected to critical scrutiny by C. Lyman Duff (Experimental Cholesterol Arteriosclerosis and Its Relationship to Human Arteriosclerosis, *Arch. Path.* **20**:81 [July], 259 [Aug.] 1935). Certainly the question is still open. The book would have been improved as a work of reference if some of the evidence against the lipid theory of arteriosclerosis had been included. Regardless of how one feels about this theory, no one can object seriously to Joslin's application of it in his plan of treatment, in which efforts are made to control the level of blood cholesterol as well as blood sugar. However, as Joslin is free to admit, lowering of the blood cholesterol usually occurs when diabetes is well controlled, regardless of the type of diet used. Also an author's index would have made the book more useful. Technically the new edition otherwise has been materially improved. Its size has been reduced by nearly 400 pages. This reduction has not been obtained at the price of thoroughness and is a distinct advantage for the man who takes his reading matter to bed with him. In sharp contrast to much of the current medical literature, the delightful personality of the author is evident in his work. His style, as always, is refreshing and his attitude toward the problems of the diabetic patient is unequaled in its sympathetic understanding. His book merits a place in the library of every physician.

Association pour la documentation photographique et cinématographique dans les sciences. IIe Congrès, Paris, 4-11 Octobre 1934. Compte rendu publié par les soins du Dr. C. Claoué et de J. Painlevé. Paper. Pp. 93, with illustrations. Paris: Librairie Maloine, S. A., 1935.

The second congress of the Association pour la documentation photographique et cinematographique dans les sciences was held in the halls of the Musée pédagogique, Paris, Oct. 4, 1934. The use of photography and cinematography is becoming an increasingly valuable aid not only in the teaching of students but also as a method of disseminating knowledge among laymen. The second congress consisted of lectures on numerous scientific subjects, most of which were illustrated with motion picture films. Among the papers published in the association's official journal is an article on autophoric transplantations by Professor Przibram of the Biologic Institute of the Academy of Science, Vienna. He demonstrated with five films the art of transplantation. He first demonstrated the transplantation of insects' heads, using for example the coleopteras. The head of a hydrophilus was exchanged with the head of a dytiscus. Other films demonstrated transplantations made on Orthoptera, Dixippus, cold-blooded vertebrates and rats.

In his paper on recent progress in infra-red photography, Dr. André Charrioux discusses radiations and colors, the spectral sensibility of photographic emulsions, material necessary for infra-red photography, photography in total darkness and the application of infra-red photography to medicine, zoology, botany, archeology and astronomy. Of medical importance is the use of the infra-red technic in cases of eczema. It is possible to demonstrate the changes in the subcutaneous small blood vessels directly under and surrounding the affected area. Dr. Charrioux has also been successful in making infra-red photographs of eyes affected with cataracts. The pictures revealed certain details that are not visible to the naked eye.

Dr. Fischgold presented a paper on some roentgenographic documents on cardiac physiology. He employed the chronophotographic method of Marey in recording the various heart dimensions.

Dr. Weyl discussed the possibilities of realization of psychologic films.

Motion picture films were used to illustrate the paper by Drs. Guichard and Pélissier on the head in breast and bottle feeding. He points out that the correct method for holding an infant during feeding prevents certain buccal-maxillofacial deformity.

Dr. Charles Claoué discussed filmograms, which is a method of recording various stages of plastic operations by a series of still pictures.

Jean Painlevé presented a long and detailed article on photomicrography. He particularly stressed the importance of microcinematography (time lapse motion photomicrography), both in black and white and in natural colors. Mr. Painlevé stated that photomicrography in relief would be very desirable, although the prospects of such a technic being developed in the near future is very remote.

Fourteen illustrations are found in the entire journal.

Lehrbuch der Endokrinologie für Studierende und Ärzte. Von Dr. Tage Kemp und Dr. Harald Okkels. Nach dem Manuskript der 2. Auflage des "Lærebog i Endokrinologi" aus dem Dänischen übersetzt von Dr. Lore Marx. Paper. Price, 10.80 marks. Pp. 224, with 92 illustrations. Leipzig: Johann Ambrosius Barth, 1934.

This is a German translation by Dr. Lore Marx from the manuscript of the second Danish edition of the "Lærebog i Endokrinologi." It is intended to be a brief summary of present knowledge of endocrinology as related to clinical medicine. Emphasis is placed on the morphology of the glands both normal and pathologic; clinical disorders are illustrated with photographs. The illustrations are unfortunately not uniformly well done, although the majority are useful. As with so many other attempts at preparing a brief summary of this complicated and fast moving field, the text is seriously deficient in many particulars. Fundamental contributions by well known investigators are frequently omitted altogether or given but passing mention; among these are important works of Stewart and Rogoff on the adrenals, of Hanson on the parathyroids, of Turner on the pituitary and mammary glands. Conversely, undue credence is given such ill founded theses as, for example, those of the sexual rejuvenationists. One amusing instance of curious terminology, probably deriving from retranslation of English to Danish to German, is that the "emergency theory" of adrenal function is here designated "Katastrophentheorie" (which, at that, is perhaps not an inaccurate name for it). Provided its many deficiencies are kept clearly in mind, parts of this book may be useful for reference.

Über Gewebsmydulise bei B_1-Avitaminose und Inanition. Inaugural-dissertation. Von Håkan Rydin. [Aus Upsala Läkareförenings Förhandlingar, N. F., Bd. XLI, häft. 1-2.] Paper. Pp. 183, with 36 illustrations. Upsala: Almqvist & Wiksells Boktryckeri-A.-B., 1935.

The question whether tissue oxidation is decreased as a specific effect of vitamin B_1 deficiency has engaged the attention of numerous investigators, and the published results have occasioned considerable debate. The fact that during any prolonged lack of vitamin B_1 there is failure to eat a sufficient amount of food and therefore inanition of varying degree has made it necessary to determine at the same time the tissue oxidation in "inanition control" animals. This inaugural dissertation is a detailed report of an extended investigation of this general problem. Pigeons were used as the experimental animals. Both the Warburg microspirometer technic and the Thunberg methylene blue method were used to estimate the degree of oxidation characteristic of muscle, liver, kidney, brain and blood cells taken from normal birds, pigeons that had subsisted on a polished rice diet, and birds exhibiting varying degrees of inanition but not lacking vitamin B_1. The effect of supplying crystalline vitamin B_1 also was investigated. Some idea of the scope of this research can be gained from consideration of the fact that, in addition to using two quite different technics for measuring the degree of tissue oxidation prevailing, observations were made not only on groups of normal and "inanition control" birds but even on the same pigeon by means of an extirpation technic by which samples of an organ were taken during a preliminary period of subsistence on an adequate diet, then during a period of vitamin deficiency, and finally during a subsequent "normal" period. The fact that the results obtained by the two different methods for estimating tissue oxidation were not always the same, that listing of the organs for their oxidative capacities as revealed by these two technics did not give identical results, doubtless serves to explain many of the contradictions found in the literature. In general this work supports the view that the lowered tissue oxidation observed in vitamin B_1 deficiency is to be attributed to the accompanying inanition. With respect to the brain, however, support was obtained for the view of Peters and his associates that vitamin B exerts a specific action on the oxidative processes occurring in this organ. The detailed data collected by this author are presented in thirty-one tables and important relationships set forth in twenty-six charts. The data are sufficiently detailed to satisfy the specialist in this field. This monograph should

constitute a valuable addition to the library of every student of the physiologic function of vitamin B_1. The citations from the literature are sufficiently extensive to form a valuable list of references bearing on this subject.

Human Personality and the Environment. By Charles MacFie Campbell, Professor of Psychiatry, Harvard Medical School. Cloth. Price, $3. Pp. 332, with 11 illustrations. New York: Macmillan Company, 1934.

"This book presents the substance of six lectures delivered before a lay audience," the author states in a preface. As he also recognizes, it is a somewhat heterogeneous mixture of scientific views concerning the structure of the body, the mechanisms through which its functions are integrated and the principles of genetics with unsystematic references to qualities of personality and tendencies to reaction culled from many different sources, medical, biographic and literary. The text is well written and full of interesting suggestions and illustrations, which even if they do not present a systematic philosophy do lead to an appreciation of the complexity and significance of the problem of personality and to the manifold lines of endeavor that must be followed for its elucidation. The book can be recommended without hesitation for reading by physicians generally.

The British Pharmaceutical Codex, 1934: An Imperial Dispensatory for the Use of Medical Practitioners and Pharmacists. Published by Direction of the Council of the Pharmaceutical Society of Great Britain. Fabrikoid. Pp. 1768. London: Pharmaceutical Press, 1934.

This volume is a companion to the British Pharmacopeia 1932, a review of which appeared in these columns some time ago. In the book under retrospect one finds an authoritative survey of standards, including tests for identity, purity, methods of assay, pharmacologic action and therapeutic uses not only of substances in materia medica appearing in the British Pharmacopeia but also of those found to be of value by experienced workers in the British dominions. The text is divided into four parts. The first part contains monographs on chemicals and on crude drugs of animal and vegetable origin, and in addition to the general description includes paragraphs describing the action and uses and a concise summary of the preparations, also indicating the manner in which the substance is most conveniently prescribed. The second part contains descriptions of surgical dressings, including their requirements and method of quantitative estimation when essential, while the third deals with the formulary section, deflecting modern pharmaceutic thought. The fourth part comprises the appendixes, containing considerable material, including various tables, lists of atomic and molecular weights, reagents commonly used in chemical and clinical testing, important drugs classified according to their use for specific effect in certain diseases, and substances bearing proprietary trade names, followed by a comprehensive index. There are peculiarities, which do not detract from the book. The volume is a contribution worthy of consideration in any scientific library and is of value to these interested as well as to pharmacists and medical practitioners, for whom it was primarily intended, particularly those of the British Empire.

Données anatomiques en vue de la chirurgie réparatrice mammaire. Par C. Claoué et I. Bernard. Paper. Pp. 58, with 36 illustrations. Paris: Librairie Maloine, S. A., 1935.

The authors feel strongly that in order to repair hypertrophied and other deformed female breasts correctly the surgeon should have a clear knowledge of the anatomic disposition of the structures concerned. The first part of this profusely but poorly illustrated monograph is therefore devoted to the anatomy of the breast and contiguous structures. The authors show that the mammary gland is anatomically associated with the cutaneous and subcutaneous systems and not with the pectoral muscles. Following the morphologic exposition, the authors deal with the various types of mammary ptoses and the mechanism of their production. They stress that the important factor causing pendulous breasts is distention of the suspensory apparatus of the breast due to elongation of the fascia superficialis. Any plastic operation for correction of a deformed breast rationally conceived ought to fulfil certain conditions, which include reconstruction of the suspensory ligament, which is in many cases a most difficult task to accomplish; preservation of the nutrition of the areola and nipple; preservation of the innervation and of some of the galactiferous canals, and a scar as small as possible close to the areola. The authors describe their own operative method of complying with these desiderata. While not offering anything particularly new or original, the monograph is worth study by surgeons interested in plastic procedures on the female breast.

Complete Handbook on State Medicine. J. Weston Walch, Chief Compiler. Paper. Price, $2.50, extra copies to same school 75 cents each. Pp. 158. Portland, Me.: Debaters Information Bureau, 1935.

This compilation is designed for the use of debaters of the question of state medicine. It contains a study outline of the subject with a bibliography, briefs for both sides, with rebuttals, and some general instructions on debating. There is a fairer distribution of the quantity of material between the two sides than in other handbooks prepared for the same purpose. Yet the statements of the Committee on the Costs of Medical Care are said to be "far ahead, in authoritativeness, of any other evidence that you can possibly quote in this debate," and no reference is made to the fact that the accuracy of these statements has been seriously questioned. The College of Surgeons is also quoted as endorsing sickness insurance, which the negative is encouraged to offer as an alternative to state medicine. There is no quotation of the resolutions against sickness insurance by the House of Delegates of the American Medical Association. It can only be said that the affirmative bias is less evident and the information on both sides more complete than in the majority of similar handbooks.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Medical Practice Acts: Determination of Reputability of Medical School.—Dr. Henry Blank was graduated from the Chicago Medical School and obtained a license to practice medicine in Illinois. Later he applied to the Wisconsin board of medical examiners for a license under section 147.17 Wisconsin Statutes, which provides that the board "may license without examination a person holding a license to practice medicine and surgery . . . in another state, if in such state the requirements imposed are equivalent to those of this state, upon presentation of the license and a diploma from a reputable professional college." The board refused to issue the license, on the ground that it did not recognize the Chicago Medical School as a reputable medical college. Dr. Blank then instituted mandamus proceedings to compel the board to hold a hearing to determine the reputability of the school of graduation. The trial court entered an order in favor of the petitioner, Dr. Blank, and the board appealed to the Supreme Court of Wisconsin.

The petition for the writ of mandamus alleged among other things that, after several attempts by Dr. Blank to get the Wisconsin state board of medical examiners to grant a hearing to determine whether the Chicago Medical School was a reputable medical college, a meeting of the board was held, at which Dr. Blank appeared "but was not given his right to a legal hearing"; that thereafter, because of protests of Dr. Blank, the board notified Dr. Blank's attorney that another hearing would be held and invited Dr. Blank to be present; that at this meeting three members of the faculty of the Chicago Medical School were present and were given a hearing, but that the board refused to permit Dr. Blank or his attorney to be present while representatives of the school were before the board; and that Dr. Blank's attorney then demanded of the board "a legal hearing for your [the] petitioner and that the testimony at such hearing be reduced to writing by a qualified stenographic reporter to allow transcription thereof for the purpose of a record of the proceedings and any necessary judicial review," and that the board refused this demand.

The general rule, said the Supreme Court of Wisconsin, governing the procedure of medical boards in determining the status of a medical school is as follows:

"The board may adjudicate the status of a medical college as to reputability either of its own motion, or on petition of the college; and where the law does not define the method by which the board shall pro-

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cond to determine the reputability of the college, it may perform its duty in that regard in any reasonable way it may deem proper." *48 Corpus Juris, 1093.*

"The board is not bound by the ordinary rules of procedure or evidence that apply in a court of law or equity." *21 R. C. L. 367.*

The function of a court in controlling by mandamus the action of such a board was considered in *State ex rel. Coffey* v. *Chittenden*, 112 Wis. 569, 88 N. W. 587. In that case a mandamus was sought to compel the state board of dental examiners to grant a license to practice dentistry and the court said:

> It is elementary that in mandamus proceedings to coerce . . . any . . . board in the exercise of . . . quasi judicial power, the sole legitimate purpose thereof is to set such . . . board in motion; to command . . . it to act, not how to act, to exercise the judicial power vested in . . . it; not to control as to the conclusion to be reached. Since it [the law] requires the board to pass upon the reputability of the school in circumstances like those in this case, and places no limit upon the methods by which it shall gather information bearing on the subject for decision, it may proceed in any reasonable way, and candidates for licenses must submit to its judgments unless they transgress the boundaries of reason and common sense.

In the present case, the court said, the board gave reasonable notice to both the Chicago Medical School and to Dr. Blank, who demanded the hearing. Three members of the medical faculty of the school and Dr. Blank appeared before the board. There is no allegation that any evidence offered by them was rejected or that they were denied opportunity to present evidence. Dr. Blank's complaint was, not that he was not given notice, nor that he was denied opportunity to establish his claim, but that he and his attorney were not permitted by the board to be present when the members of the medical school presented their evidence, and that his demands for another hearing and to have a competent stenographic reporter take down and transcribe the testimony were denied. Dr. Blank, the court said, was not entitled to be present before the board when witnesses were being heard and his exclusion was not a denial of due process. Administrative boards, even though their functions are quasi judicial and involve the determination of questions of fact, are not bound to conduct their proceedings as courts ordinarily conduct theirs. Furthermore, a court may not compel an administrative board to have the testimony given before it taken down by a stenographer, in the absence of a statute requiring this method of recordation of testimony. The board may take its testimony and keep its records in "long hand" if it wants to.

Dr. Blank was not entitled, as a matter of right, the court said, to have the board grant him any hearing. The present case is distinguishable from *State ex rel. Milwaukee Medical College* v. *Chittenden*, 127 Wis. 468, 107 N. W. 500. In that case the Milwaukee Medical College was recognized by the state dental board as a reputable college. Another college preferred charges against it claiming that it was not reputable and the board, without giving notice to the Milwaukee Medical College, "resolved" that the college dental department was not a "reputable dental school." The Supreme Court of Wisconsin, in that case, held that the determination by the board was without notice to the college and the action was violative of the due process secured by the Fourteenth Amendment to the United States Constitution. In the present case, the Chicago Medical School had never been recognized by the board as a reputable medical college. Nothing would have been taken away from the college and certainly nothing was taken away from Dr. Blank, the court said, by denying the request for a hearing. The board had theretofore determined that the college was not reputable, and, the court pointed out, "it does not appear that its previous determination was not based upon facts sufficient to support it." If Dr. Blank was entitled to a hearing before the board for reconsideration of the matter, so was every other graduate of the college that wanted a license in Wisconsin. If the facts are such that the school is reputable under the Wisconsin law or was so at the time Dr. Blank received his diploma from it, Dr. Blank's remedy, the court said, is not to mandamus the board to grant him a hearing but to mandamus it to grant him a license.

The action of the trial court in issuing the order against the board was therefore reversed, and the record remanded with instructions to deny the petition for the mandamus.—*State ex rel. Blank v. Gramling (Wis.), 262 N. W. 614.*

Society Proceedings

COMING MEETINGS

American Medical Association, Kansas City, Mo., May 11-15. Dr. Olin West, 535 North Dearborn St., Chicago, Secretary.

Alabama, Medical Association of the State of, Montgomery, Apr. 21-23. Dr. D. L. Cannon, 519 Dexter Avenue, Montgomery, Secretary.

American Academy of Pediatrics, Kansas City, Mo., May 11-12. Dr. Clifford G. Grulee, 636 Church St., Evanston, Ill., Secretary.

American Association for Thoracic Surgery, Rochester, Minn., May 4-6. Dr. Richard H. Meade Jr., 2116 Pine St., Philadelphia, Secretary.

American Association of the History of Medicine, Atlantic City, N. J., May 4. Dr. Edward J. G. Beardsley, 1919 Spruce St., Philadelphia, Secretary.

American Association on Mental Deficiency, St. Louis, May 1-4. Dr. Groves B. Smith, Beverly Farms, Godfrey, Ill., Secretary.

American Bronchoscopic Society, Detroit, May 27. Dr. Lyman Richards, 319 Longwood Ave., Boston, Secretary.

American Dermatological Association, Swampscott, Mass., June 4-6. Dr. Fred D. Weidman, Medical Laboratories, University of Pennsylvania, Philadelphia, Secretary.

American Gastro-Enterological Association, Atlantic City, N. J., May 4-5. Dr. Russell S. Boles, 1901 Walnut Street, Philadelphia, Secretary.

American Gynecological Society, Absecon, N. J., May 25-27. Dr. Otto H. Schwarz, 630 S. Kingshighway Blvd., St. Louis, Secretary.

American Heart Association, Kansas City, Mo., May 12. Dr. H. M. Marvin, 50 West 50th St., New York, Acting Executive Secretary.

American Laryngological Association, Detroit, May 25-27. Dr. James A. Babbitt, 1912 Spruce St., Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, Denver, May 18-20. Dr. C. Stewart Nash, 708 Medical Arts Building, Rochester, N. Y., Acting Secretary.

American Neurological Association, Atlantic City, N. J., June 1-3. Dr. Henry A. Riley, 117 East 72d St., New York, Secretary.

American Ophthalmological Society, Hot Springs, Va., June 1-3. Dr. J. Milton Griscom, 235 South 17th St., Philadelphia, Secretary.

American Orthopedic Association, Milwaukee, May 18-21. Dr. Ralph K. Ghormley, Mayo Clinic, Rochester, Minn., Secretary.

American Otological Society, Detroit, May 28-29. Dr. Thomas J. Harris, 104 E. 40th St., New York, Secretary.

American Psychiatric Association, St. Louis, May 4-8. Dr. William C. Sandy, State Education Building, Harrisburg, Pa., Secretary.

American Radium Society, Kansas City, Mo., May 11-12. Dr. E. H. Skinner, 1103 Grand Ave., Kansas City, Mo., Secretary.

American Society for Clinical Investigation, Atlantic City, N. J., May 4. Dr. J. M. Hayman Jr., Lakeside Hospital, Cleveland, Secretary.

American Society for the Hard of Hearing, Cincinnati, May 26-30. Miss Betty C. Wright, 1537 35th St. N. W., Washington, D. C., Secretary.

American Society of Clinical Pathologists, Kansas City, Mo., May 6-10. Dr. A. S. Giordano, 331 North Main St., South Bend, Ind., Secretary.

American Surgical Association, Chicago, May 7-9. Dr. Vernon C. David, 19 East Madison Street, Chicago, Secretary.

American Therapeutic Society, Kansas City, Mo., May 8-9. Dr. Oscar B. Hunter, 1835 Eye St. N. W., Washington, D. C.

American Urological Association, Boston, May 18-21. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.

Arizona State Medical Association, Nogales, Apr. 23-25. Dr. D. F. Harbridge, 15 East Monroe Street, Phoenix, Secretary.

Arkansas Medical Society, Hot Springs National Park, Apr. 27-29. Dr. W. R. Brooksher, 602 Garrison Ave., Fort Smith, Secretary.

Association for the Study of Internal Secretions, Kansas City, Mo., May 11-12. Dr. E. Kost Shelton, 34 Michelorena St., Santa Barbara, Calif., Secretary.

Association of American Physicians, Atlantic City, N. J., May 5-6. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.

California Medical Association, Coronado, May 25-28. Dr. F. C. Warnshuis, 450 Sutter St., San Francisco, Secretary.

Connecticut State Medical Society, Hartford, May 20-21. Dr. Charles W. Comfort Jr., 27 Elm Street, New Haven, Secretary.

District of Columbia, Medical Society of the, Washington, D. C., May 6. Dr. C. B. Conklin, 1718 M St. N. W., Washington, D. C., Secretary.

Florida Medical Association, S. S. *Florida*, Apr. 27-29. Dr. Shaler Richardson, 111 West Adams St., Jacksonville, Secretary.

Georgia, Medical Association of, Savannah, Apr. 21-24. Dr. Edgar D. Shanks, 478 Peachtree Street N.E., Atlanta, Secretary.

Illinois State Medical Society, Springfield, May 19-21. Dr. Harold M. Camp, 202 Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Des Moines, Apr. 29-May 1. Dr. Robert L. Parker, 3510 Sixth Ave., Des Moines, Secretary.

Louisiana State Medical Society, Lake Charles, Apr. 27-29. Dr. P. T. Talbot, 1430 Tulane Ave., New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, Apr. 28-29. Dr. Walter Dent Wise, 1211 Cathedral St., Baltimore, Secretary.

Medical Library Association, Rochester, Minn., May 25-27. Miss Janet Doe, 2 E. 103d St., New York, Secretary.

Medical Women's National Association, Kansas City, Mo., May 10-12. Dr. Laila A. Coston-Conner, 333 East 68th St., New York, Secretary.

Minnesota State Medical Association, Rochester, May 3-6. Dr. E. A. Meyerding, 11 West Summit Ave., St. Paul, Secretary.

Mississippi State Medical Association, Greenville, May 5-7. Dr. T. M. Dye, McWilliams Building, Clarksdale, Secretary.

Missouri State Medical Association, Columbia, Apr. 13-15. Dr. E. J. Goodwin, 634 North Grand Blvd., St. Louis, Secretary.

National Tuberculosis Association, New Orleans, Apr. 22-25. Dr. Charles J. Hatfield, 7th and Lombard Streets, Philadelphia, Secretary.

New Hampshire Medical Society, Manchester, May 26-27. Dr. Carleton R. Metcalf, 3 S. State St., Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, June 3-4. Dr. J. B. Morrison, 66 Milford Ave., Newark, Secretary.

New Mexico Medical Society, Carlsbad, May 6-8. Dr. L. B. Cohenour, 219 West Central Ave., Albuquerque, Secretary.

New York, Medical Society of the State of, New York, Apr. 27-29. Dr. Daniel S. Dougherty, 2 East 103d St., New York, Secretary.
North Carolina, Medical Society of the State of, Asheville, May 4-6. Dr. L. B. McBrayer, Southern Pines, Secretary.
North Dakota State Medical Association, Jamestown, May 17-19. Dr. Albert W. Skelsey, 20½ Broadway, Fargo, Secretary.
Pacific Coast Oto-Ophthalmological Society, Del Monte, Calif., April 13-16. Dr. Frederick C. Cordes, Fitzhugh Bldg., San Francisco, Secretary.
Rhode Island Medical Society, Providence, June 3-4. Dr. J. W. Leech, 167 Angell St., Providence, Secretary.
South Carolina Medical Association, Greenville, Apr. 21-23. Dr. E. A. Hines, Seneca, Secretary.
South Dakota State Medical Association, Sioux Falls, May 4-6. Dr. John F. D. Cook, Langford, Secretary.
Tennessee State Medical Association, Memphis, Apr. 14-16. Dr. H. H. Shoulders, 706 Church Street, Nashville, Secretary.
Texas, State Medical Association of, Houston, May 25-28. Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Periodicals are available from 1926 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

Alabama Medical Association Journal, Montgomery

8:273-300 (Feb.) 1936

Trends of Medical Practice. J. S. McLester, Birmingham.—p. 273.
Diabetes: Manifestations and Difficulties in Treatment. W. L. Miller, Gadsden.—p. 276.
Cough: Causes and Significance. J. A. Keyton, Dothan.—p. 279.
Spastic Colon. E. S. Sledge, Mobile.—p. 282.
Dangers of Dental Interference in Acute Blood Dyscrasias. G. Walsh, F. M. Pool and A. S. Hargis, Fairfield.—p. 284.

American J. Digestive Diseases and Nutrition, Chicago

2:709-774 (Feb.) 1936

*Incidence and Biologic Characteristics of Hemolytic Bacillus Coli in Intestinal Tract of Patients with Chronic Ulcerative Colitis. Edith E. Nicholls, New York.—p. 709.
*The Takata-Ara Test of Liver Function. T. B. Magath, Rochester, Minn.—p. 713.
Hippuric Acid Test for Hepatic Function: Its Relation to Other Tests in General Use. A. M. Snell and J. E. Plunkett, Rochester, Minn.—p. 716.
Phenolphthalein Studies: I. Colloidal Phenolphthalein. B. Fantus and J. M. Dyniewicz, Chicago.—p. 721.
Influence of Some Organic and Inorganic Acids on Motility of Small Intestine. N. M. Gray, Montreal.—p. 725.
Blood Buffer Values in Mineral Deficiency. I. N. Kugelmass, New York.—p. 730.
*New Technic for Continuous Control of Acidity in Peptic Ulcer by Aluminum Hydroxide Drip. E. E. Woldman and V. C. Rowland, Cleveland.—p. 733.
Therapy of Peptic Ulcer: Conservative versus Radical. E. H. Gaither, Baltimore.—p. 736.
Lymphopathia Venerea: Clinical Survey. C. F. Martin, Philadelphia.—p. 741.
Recto-Urethral Fistula: Operation for Its Cure. C. D. Gaston and A. B. Lee, Birmingham, Ala.—p. 744.

Incidence and Biologic Characteristics of Hemolytic Bacillus Coli in Chronic Ulcerative Colitis.—Nicholls made cultures of 135 proctoscopic smears from forty-two patients with chronic ulcerative colitis and found the hemolytic form of Bacillus coli in eighty-four, or 62.2 per cent, of the samples. In forty-five of the eighty-four cultures the hemolytic bacillus was present in large numbers (from 50 to 100 per cent). If only the first swab specimen is considered from each patient, hemolytic Bacillus coli organisms were present in twenty-six, or 61.9 per cent, of the forty-two cases. Repeated swab cultures were obtained from twenty-eight of the patients, the number varying from two to ten from a single patient. Specimens were taken at intervals ranging from one week to several months, and thirteen patients were studied over a period of from one to two years. In twenty-two, or 78.6 per cent, of the twenty-eight patients hemolytic Bacillus coli was present in at least one of the specimens studied. In the six negative cases, four patients had only two cultures and two had four cultures. In incidence and biologic characteristics, hemolytic and non-hemolytic strains of Bacillus coli recovered from the proctoscopic smears of the patients differed in no respect from those obtained from stool specimens of healthy subjects.

The Takata-Ara Test of Liver Function.—In order to test the value of the Takata-Ara reaction, Magath performed the test in a series of eighty-six consecutive cases. In each case also a bromsulfalein test was performed simultaneously. Qualitative and quantitative van den Bergh tests were done in eighty-three cases, and quantitative determinations of protein were made in sixty-two cases, all the tests being done on sixty-one patients. The patients were carefully studied clinically, with especial reference to the possibility of disease of the liver. The condition of the liver of twenty-seven patients was observed either at operation or at necropsy. The diagnosis of cirrhosis was made in twenty-five patients, of whom sixteen gave a positive Takata-Ara test; however, sixteen other patients without cirrhosis also gave positive tests. Hepatic disease of some kind was diagnosed in fifty-three patients, the Takata-Ara test being positive in twenty-eight and negative in twenty-five instances. With four patients who apparently did not have involvement of the liver, the Takata-Ara test was positive. Of nine patients with malignant conditions involving the liver, seven gave a positive Takata-Ara reaction. The negative tests in cases of disease of the liver were for the most part obtained in cases of early lesions, or relatively small ones, and obstructive lesions did not usually result in positive tests. There was no evidence to suggest that changes in the total protein of the serum could be correlated with the Takata-Ara tests. In only about half of the cases in which there was reversal of the albumin-globulin ratio was the liver involved, and in nine out of twenty-one cases of cirrhosis the ratios were reversed. Only one case, that of a hypernephroma, gave a reversed ratio and one in which involvement of the liver was not diagnosed. It is possible that the fibrinogen content of the serum has an influence on the Takata-Ara reaction and may account for Takata's results in cases of pneumonia. The correlation between the Takata-Ara test and the bromsulfalein test was not high; only half the cases that showed dye retention gave a positive Takata-Ara test. Direct van den Bergh reactions were present when twenty-two Takata-Ara tests were positive and when twenty were negative. In nine cases with positive Takata-Ara tests, the van den Bergh reaction was indirect. In four of these cases the liver was not involved. Of the ten patients in the series diagnosed as having syphilis, five had a positive Takata-Ara test; the liver was evidently involved in these five cases. The van den Bergh reaction was direct in thirty-nine of fifty-two cases in which the liver was involved and in two in which the liver was not involved according to clinical diagnosis (hypernephroma and hemolytic jaundice). In fifty-one cases in which the liver was involved by disease the dye test was positive. The test was positive also in three cases in which the liver was thought to be uninvolved (arthritis, hypernephroma and facial neuralgia). In these three cases the dye retained was just sufficient to report the test as grade 1 (6 per cent of dye retained). In two cases there was evidence to justify the clinical diagnosis of involvement of the liver, but the report of the dye test was negative. These two cases were of tertiary syphilis with clinical manifestations of hepatitis but with no positive laboratory tests, and of recurrent cholangeitis, respectively, tests being done during a remission. Of sixteen cases in which dye retention of grade 1 was present, involvement of the liver was surely present in thirteen and probably was present in one other case.

Control of Acidity in Peptic Ulcer by Aluminum Hydroxide Drip.—Woldman and Rowland believe that the nasal drip method of continuous twenty-four hour adsorption of gastric acidity by aluminum hydroxide has promise of definite usefulness in the treatment of the acute stage of peptic ulcer. If reliance is placed on antacid treatment, there is every reason to carry it out in the most thorough and continuous manner. The aluminum hydroxide drip is free from the danger of alkalosis and of secondary acid secretion. The method is entirely compatible with any type of dietetic or sedative treatment. Because of continuous neutralization the diet can be suited more definitely to the nutritional needs of the patient rather than crowded in frequent feedings to control acidity. Functional rest of both the secretory and motor function of the

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stomach may be allowed in larger measure. Especially for the intractable case, before surgery is resorted to, the method represents an additional refinement of technic in medical management. About 200 cc. of 7 per cent colloidal aluminum hydroxide is added to 600 cc. of distilled water, which, allowed to drip into the stomach at the rate of 5 or 6 drops per minute, will require twenty-four hours for its consumption.

Arkansas Medical Society Journal, Fort Smith

32: 137-148 (Feb.) 1936

Underwater Therapy in Treatment of Chronic Arthritis. E. M. Smith, Hot Springs National Park.—p. 137.
Some Physiologic Aspects of Hypertension. C. H. McDonald, Little Rock.—p. 138.

California and Western Medicine, San Francisco

44: 73-144 (Feb.) 1936

Psittacosis and Tularemia: Report of Cases—Infection of Two Laboratory Workers in California: Recovery.—p. 79.
*Poisoning Due to Ingestion of Mixture of Sodium Bicarbonate-Sodium Fluoride. J. C. Geiger, San Francisco.—p. 81.
Acute Fluorine Poisoning: Report of Five Cases. J. L. Carr, San Francisco.—p. 83.
Psychiatry and the Law. R. W. Black, Oakland.—p. 87.
Fresno County Part-Pay Plan. H. M. Ginsburg, Fresno.—p. 92.
Fractures of Both Bones of Arm or Leg: Their Management. E. W. Cleary, San Francisco.—p. 94.
Shock Treated by Warmed Air. H. H. Hitchcock and T. E. Reynolds, Oakland.—p. 98.
Biopsy in Malignant Disease. O. H. Pflueger and W. P. Stowe, San Francisco.—p. 99.

Poisoning Due to Ingestion of Mixture of Sodium Bicarbonate and Sodium Fluoride.—Geiger reports the fact that a mixture of sodium bicarbonate and sodium fluoride, sold in bulk as sodium bicarbonate, was responsible for poisoning in twenty-one reported instances, three of which terminated in death. Samples submitted by those made ill and by members of the families of the deceased, and those obtained by the inspectors of the department of public health from the various sources involved (except those from intact barrels of the original product) consistently showed arsenic and fluorine on qualitative chemical analysis; on quantitative analysis these samples were found to contain varying proportions of sodium bicarbonate and sodium fluoride, demonstrating a heterogenic, "spotty" or "pocket" distribution. The epidemiologic picture, at first confused by the positive reactions indicating the presence of arsenic in the specimens of "baking soda" and of commercial sodium fluoride, was clarified through further study, which brought out the fact that hydrofluoric acid, found through the reaction of hydrochloric or sulfuric acid with the sodium fluoride of the mixture, dissolved the glass of the containers and released arsenic from it in sufficient quantities to give positive reactions for arsenic. Recheck tests in petrolatum lined glass containers gave consistently negative results for arsenic. It should be emphasized that there is no danger from sodium bicarbonate of standard brands, sold in good condition, in the original package. The incident should awaken interest in the real and potential hazards existing in the salvage of foods and drugs, and the need for effective legislation that will require and provide adequate official supervision and regulation over all persons, firms and corporations dealing in foods and drugs. This incident should serve as a warning and give impetus to the medical profession, federal authorities and officials to secure adequate control over the labeling, manufacture, distribution, sale and use of insecticides, particularly those containing fluorine.

Colorado Medicine, Denver

33: 73-152 (Feb.) 1936

Chronic Arthritis: Classification and Etiology of Chronic Arthritis. T. P. Sears, Denver.—p. 84.
Id.: Pathology and Symptomatology of Chronic Arthritis. C. F. Kemper, Denver.—p. 87.
Id.: Atrophic and Hypertrophic Arthritis: Roentgen Diagnosis. K. D. A. Allen, Denver.—p. 91.
Id.: Treatment of Chronic Arthritis. J. G. Ryan, Denver.—p. 95.
Id.: Treatment of Chronic Arthritis from the Orthopedic Standpoint. C. E. Sevier, Denver.—p. 101.
Tetanus: Treatment by Antitoxin Intracisternally. P. M. Schunk, Sheridan.—p. 115.
Administration of New Hypnotic Law as It Affects Colorado Hospitals. A. D. Baker, Denver.—p. 120.

Kansas Medical Society Journal, Topeka

37: 45-88 (Feb.) 1936

*Histidine Treatment of Peptic Ulcer. E. W. Wilhelmy and E. H. Hashinger, Kansas City, Mo.—p. 45.
Viscerorenal Reflexes and Their Disturbances. O. W. Davidson, Kansas City.—p. 48.
Surgical Treatment of Pulmonary Tuberculosis. H. Bradshaw, Boston.—p. 52.
Coccidioidal Granuloma. J. V. Van Cleve, Wichita.—p. 54.
Cautery Surgery in Treatment of Cancer. W. B. Steward, Topeka.—p. 55.
Removal of Foreign Bodies in the Extremities. W. J. Kiser, Wichita.—p. 57.

Histidine Treatment of Peptic Ulcer.—Since January 1935, Wilhelmy and Hashinger have treated and carefully followed twenty-six unselected cases of roentgenographically proved peptic ulcers. The method of procedure has been the daily injection of 5 cc. of 4 per cent histidine monohydrochloride for a period of twenty-four days. No untoward complications or reactions have been encountered, nor has any patient complained of soreness or discomfort from the treatment. The average duration of symptoms for the entire series was 8.7 years. A typical ulcer history with epigastric distress one or two hours after meals, intermittence with food and alkali relief were present in about 85 per cent of the cases. Roentgenographic observations were checked immediately after treatment and again from two to four months later with the following results: Four were considered cured, four improved and the remainder unimproved. Those cases considered cured were the ones in which no remaining evidence of ulcer could be detected. Decrease in the size of the ulcer and lessened gastric motility was the basis on which four cases were classified as roentgenographically improved. Marked roentgen improvement with no clinical relief was shown in one case. The clinical results of the series show seventeen cases, or 65.4 per cent, with complete or partial relief, and nine cases, or 34.6 per cent, with no clinical improvement. Of the seventeen cases, thirteen were completely relieved and four were partially relieved. Because of the natural tendencies of peptic ulcers to heal or become symptom free for varying periods of time without any treatment, no definite conclusions can be drawn until these cases, and many more, have been followed for a period of several years. It is apparent, however, that here is a method of treatment that will at least give symptomatic relief in about the same percentage of cases as the authors' former method of procedure, which consisted of a modified Sippy regimen.

Maine Medical Journal, Portland

27: 23-44 (Feb.) 1936

The Medical Profession versus Racketeering. J. G. Murray, St. Paul.—p. 25.
Analysis of Two Hundred and Twenty-Three Cases of Uterine Malignancy. W. Holt, Portland.—p. 27.
Acute Ileus. W. H. Bunker, Calais.—p. 33.

New England Journal of Medicine, Boston

214: 227-276 (Feb. 6) 1936

Obliterative Cholangeitis Involving Extrahepatic Bile Ducts. H. K. Sowles, Boston.—p. 227.
Ureterovesical Carcinoma: Cystectomy—Ureterosigmoidostomy: Case Report. W. C. Quinby, Boston.—p. 232.
*Hypothesis for Origin of Renal Calculus. A. Randall, Philadelphia.—p. 234.
Management of Fibroma of Retropharynx: Report of Case. H. L. Albright, Boston.—p. 242.
Ionization in Treatment of Hay Fever and Allied Conditions. S. W. Garfin and S. M. Pearl, Boston.—p. 244.

Hypothesis for Origin of Renal Calculus.—Randall believes that there are but two basic causal factors capable of initiating the development of a stone in a renal pelvis. The difference between these two causal factors can be sharply delineated, and the resultant stone should be termed a "primary" or a "secondary" renal calculus, depending on which of these two causal factors is present. In the first class, or the "primary" renal calculi, one finds those cases in which the clinical picture is especially clear. To it belongs the individual, in otherwise perfect health, who is suddenly seized with the clinical state known as calculus colic. It is the author's firm conviction that such a calculus has arisen as a gradual crystallization on a lesion in the renal pelvis. Somewhere in the renal pelvis, most probably on a papilla or in the papillary-calicial angle, there has occurred a primary ulcerative lesion. It is small but with

a raw surface, and the precipitation and coalescence of urinary salts have occurred on it. The salts so precipitated are those which at that time are especially supersaturated in the urine. As such the deposit starts and, once started, has every reason to increase gradually in size. Being so fixed, it gives no symptoms of its presence until, owing to some factor, be it trauma, size, weight or sudden motion, it ceases to be a fixed concretion and breaks loose from its point of origin. The next natural course is nature's effort to extrude the calculus down the ureteral line of drainage, with the result that one sees the patient in acute ureteral stone colic. Primary papillary or calicial ulceration is of much more frequent occurrence than supposed. Such ulceration may be infectious, trophic or allergic. The facts demonstrated by Lieberthal and von Huth in renal tuberculosis are pregnant with possibilities in regard to the more frequent occurrence of pelvic ulceration in other infectious states. In the second class belong the calculi formed in a renal pelvis in which urinary stasis is present because of some obstruction to the normal urine outflow. It has been the tendency to look at this picture in a reverse order, making the stone the cause of the hydronephrosis rather than the resultant effect or complication of a hydronephrotic pelvis. To the author this picture is closely akin to the recognized condition as seen in vesical calculus. As the first class, which forms as crystallizations on pelvic ulceration, is termed "primary" renal calculi, so this second class, postulated on faulty pelvic drainage, is called "secondary" renal calculi. The actual origin of the secondary renal calculi demands nothing more for a nucleus than a cluster of desquamated cells, a bacterial clump or a tiny clot of blood. They are easily assimilated into the clinical pabulum as the familiar vesical stone, and on equally parallel lines runs the observed fact that, when all the essential factors appear to be present for a stone's growth, it does not of necessity materialize. There is no doubt that in these secondary stones, formed of varying chemical laminae, certain salts at certain epochs reach the threshold of their insolubility in such a supersaturated liquid as the urine and precipitate in pure form over a period of time. Under these conditions there will be periods when one type of salt will be more easily precipitated than others, and the laminations will correspond to exactly such periods. Likewise the growth of such stones varies according to the type of deposit then being made. The factor of supersaturation of a urinary salt becomes of greater consequence the more one dwells on these facts and as such lends greater weight to the rôle of colloidal chemistry.

New York State Journal of Medicine, New York

36: 219-302 (Feb. 15) 1936

Chronic Arsenical Poisoning: Symptoms and Sources. A. B. Cannon, New York.—p. 219.
Association of Fractures and Paget's Disease (Osteitis Deformans). C. A. Traver, Albany.—p. 242.
Pathology of Fatal Birth Injuries. W. E. Studdiford, New York.—p. 247.
Radium Therapy. D. Quick, New York.—p. 251.
Chronic Encephalitis: Care and Treatment of Patients Found in State and Municipal Hospitals. O. C. Perkins, Brooklyn.—p. 255.
Infection of Soft Tissue by Gas Producing Organisms: Early Recognition by Roentgenograms: Report of Five Cases. L. R. Lingeman, Rochester.—p. 259.
Five Thousand Gastro-Intestinal X-Ray Examinations: Review and Summary of Conclusions. E. C. Koenig, Buffalo.—p. 264.
Dinitro-Orthocresol: Metabolic Stimulator and Its Toxic Side Actions. M. Plotz, Brooklyn.—p. 266.

Puerto Rico J. Pub. Health & Trop. Med., San Juan

11: 167-368 (Dec.) 1935

Studies in Filariasis: I. In Puerto Rico. F. W. O'Connor, New York, and Constance R. Hulse.—p. 167.

Southwestern Medicine, Phoenix, Ariz.

20: 39-80 (Feb.) 1936

Treatment of Pneumonia in Early Childhood. E. P. Cook, San Jose, Calif.—p. 39.
Peptic Ulcer: Benign or Malignant? C. T. Stone, Galveston, Texas.—p. 44.
Gastro-Intestinal Symptoms in Pernicious Anemia. G. M. Brandau, Monahans, Texas.—p. 47.
Quinine, Intravenously, in Treatment of Pneumonia. O. H. Brown, Phoenix, Ariz.—p. 49.
Repair of Pelvic Floor. J. S. Masson, Rochester, Minn.—p. 52.
Nerve Resections. L. R. Kober, Phoenix, Ariz.—p. 56.
Studies on the Nature of Phagocytosis. Z. M. Flinn, Prescott, Ariz.—p. 57.

Tennessee State Medical Assn. Journal, Nashville

29: 43-84 (Feb.) 1936

Extraperitoneal Pathology with Intraperitoneal Symptoms. J. B. Haskins, Chattanooga.—p. 43.
Diagnosis and Removal of Foreign Bodies from Lower Air Passages. C. K. Lewis, Memphis.—p. 48.
Typhus Fever. J. P. Keller, Nashville.—p. 52.
Treatment of Cystitis. G. M. Roberts, Chattanooga.—p. 57.
Treatment of Empyema in Children. J. G. Eblen, Knoxville.—p. 67.

Western J. Surg., Obst. & Gynecology, Portland, Ore.

44: 67-132 (Feb.) 1936

*Cesarean Section: Mortality and Morbidity. P. H. Arnot, San Francisco.—p. 67.
Study of Cardiac Disease Complicating Pregnancy. Margaret Schulze, San Francisco.—p. 80.
Elliott Treatment of Pelvic Inflammatory Disease. R. Fallas, Los Angeles.—p. 88.

Cesarean Section.—Arnot states that low cesarean section, routine vaginal cleaning before operation, fewer vaginal examinations in cases not progressing well in labor, improved table technic and the frequent use of blood transfusions were the chief reasons for there being no maternal deaths in ten and one-half years (356 cases) in his hospital. There was no relationship between the incidence of morbidity and the number of hours the membranes had been ruptured, the patient not being in labor. Neither was there such a relationship in the group of patients who went into labor without ruptured membranes. But when the patient was in labor and the membranes had ruptured, time definitely increased the incidence of morbidity. The test of labor, with or without ruptured membranes, was the biggest causative factor in cases in which there was fever for ten days or more. Previous cesarean section gave a considerable immunity toward infection, while other types of previous laparotomies decreased it slightly. Previous vaginal delivery conferred little or no immunity.

West Virginia Medical Journal, Charleston

32: 53-100 (Feb.) 1936

Estimation of Disability After Injury. W. G. Stern, Cleveland.—p. 53.
Personal Factors in Determining Compensation Awards. A. S. Dayton, Charleston.—p. 56.
Allergy: Industrial Hazard. M. F. Petersen, Charleston.—p. 60.
Uniformity in Disability Ratings. P. R. Harrison Jr., Charleston.—p. 62.
The Problem of Chest Disease in Industry. G. H. Barksdale, Charleston.—p. 67.
Conservative Treatment of Compound Fractures. W. G. Stern, Cleveland.—p. 71.
Can the Medical Profession Endure? C. H. Hall, Elkins.—p. 76.
Acute Posttraumatic Osteoporosis. C. B. Smith, Charleston.—p. 78.
Fistula in Ano with Pilonidal Sinus: Case. W. M. Warman, Morgantown.—p. 80.
*Early Oxygen Injection of Joints to Prevent Adhesions: New Procedure. E. B. Henson, Charleston.—p. 83.

Early Oxygen Injection of Joints to Prevent Adhesions.—Henson has had continued good results for six years with the use of oxygen or air injection of joints to break up adhesions. Experience has shown that some joint capsules can be made to expand more than others with the same known pressure; therefore, for inflation, not more than 1 or 2 pounds of pressure should be used. Oxygen has replaced air, because oxygen stimulates synovial secretion. A dry joint is no longer dry after oxygen injection. By frequent injections of acutely infective joints, the danger of dense adhesions is greatly lessened and many stiff joints may be prevented. For insufflation as much fluid as possible is withdrawn from the joint and then as much oxygen as the patient will tolerate is injected. The patient should be given morphine prior to injection. In inflating chronic joints the pressure is tested so that on the first injection not more than 2 pounds is registered. This is done before the needle is inserted into the capsule of the joint. The needle is inserted into the knee joint just below the patella, an effort being made to get a space between the bones, and the pressure is then turned on and it is stopped as soon as the patient complains of pain. While the needle is still inserted the oxygen is cut off and a roentgenogram is made to get some idea of how much oxygen is actually within the capsule. The apparatus used is described.

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FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Journal of State Medicine, London

44: 1-62 (Jan.) 1936

Early Weeks of Life in Relation to the Health of the Adolescent. A. A. Moncrieff.—p. 1.
Tuberculosis in Youth. L. S. T. Burrell.—p. 7.
Rheumatism and Rheumatic Heart Disease in the Young. R. Miller.—p. 14.
The Hygiene of Breathing, Hearing and Speaking. W. Ibbotson.—p. 21.
Adolescence and Microbial Infections. J. W. H. Eyre.—p. 35.
Pitfalls of Physical Training. R. Cove-Smith.—p. 40.
Prevention of Nervous Breakdown as Medicosocial Problem. Doris M. Odlum.—p. 46.

South African Medical Journal, Cape Town

9: 817-856 (Dec. 14) 1935

Our Land: Is Our Population Satisfactory? Results of Inspection of Children of School Ages. H. M. Brown.—p. 819.
Id.: Physical Tests Applied to the White Population of the Union. E. H. Cluver.—p. 825.
Id.: Observation on Quinine Prophylaxis and Blackwater Fever in Central Africa. H. v. R. Mostert.—p. 827.

Tubercle, London

17: 145-192 (Jan.) 1936

Tuberculosis of Air Passages. S. C. Thomson.—p. 145.
*Anterolateral Thoracoplasty in Pulmonary Tuberculosis. J. Thevarthundil.—p. 152.
Laryngeal Mirror Test for Detection of Tubercle Bacilli: Note. W. B. Wood.—p. 162.
Present Concepts of Tuberculous Infection and Disease: Clinical and Pathologic Considerations: Acquired and Constitutional Factors in Resistance to Tuberculosis. E. R. Long.—p. 166.

Anterolateral Thoracoplasty in Pulmonary Tuberculosis.—Thevarthundil points out that a technic of thoracoplasty, based on the power of retraction of the lung rather than on compression from without, is being perfected. The lung is traumatized not only during its movements but also in repose in a distended state. The regions of maximal movement of the hemithorax in the upper, middle and lower parts of the thorax are the anterior, anterolateral and lateral parts respectively, the posterior surface moving comparatively little. The lines of maximal dynamic trauma coincide with the line of maximal static trauma. In anterolateral thoracoplasty, an attempt is made to give repose to the lung by the elimination of the dominants; i. e., to interrupt the chief lines of traction of the thoracic wall on the lungs. The operation consists of a phrenic exeresis combined with the removal of variable lengths of ribs along the line of maximal movement. While it is admitted that an anterolateral thoracoplasty will not produce much immediate lung collapse, the author claims that it brings about considerable immobility of the hemithorax and allows lung retraction and rest. The operation being less traumatizing and shock producing than a posterior paravertebral operation, it can be used with benefit in cases less chronic than those usually selected for posterior thoracoplasty and in cases in which the general condition of the patient does not warrant a serious compression operation.

Quart. Bull., Health Org., League of Nations, Geneva

4: 497-630 (Sept.) 1935

The Health Organization and Biologic Standardization. R. Gautier.—p. 497.
Essay on Charlatanism. I. Wasserberg.—p. 555.
Report of Second Conference on Standardization of Sex Hormones, Held in London, July 15 to 17, 1935.—p. 618.

Chinese Medical Journal, Peiping

49: 1281-1402 (Dec.) 1935

Clinical Study of Early Manifestations of Chinese Kala-Azar. C. U. Lee and H. L. Chung.—p. 1281.

Japanese Journal of Obstetrics & Gynecology, Kyoto

18: 423-508 (Dec.) 1935

Biologic Study of Effect of Toxins of Malignant Tumor to Suprarenals, Lymphatic System and Other Organs: Parts IV, V, VI and VII. S. Ohamoto.—p. 424.
Immunologic Study of Human and Animal Malignant Tumors: Parts I, II, III, IV, V, VI and VII. I. Narita.—p. 458.
Mechanism of Radiotherapy: Part I. Study of Mechanism of Radiotherapy by Means of Tissue Culture. Y. Kominami.—p. 503.

Paris Médical

2: 1-32 (Jan. 4) 1936

Tuberculosis in 1936: Annual Review. P. Lereboullet and H. Gavois.—p. 1.
Pathogenesis of Tuberculosis in Bovine Species. C. Guérin.—p. 12.
Preservation of Schoolboy Against Tuberculosis. J. Génévrier.—p. 13.
Experimental Investigations on Tuberculous Meningitis. A. Bouquet and R. Broca.—p. 17.
Definition of Perifocal Infiltration and of Epituberculosis. R. Benda and H. Mollard.—p. 22.
Thoracoplasties of Substitution and Thoracoplasties Complementary to Homolateral Pneumothorax. A. Bernou and H. Fruchaud.—p. 24.
*Phrenicectomies or Phrenic Alcoholizations. W. Jullien.—p. 28.

Phrenicectomies or Phrenic Alcoholizations.—According to Jullien, the promise originally offered by phrenicectomy has not been fulfilled. Its principal disadvantages are that it paralyzes the diaphragm without insuring favorable therapeutic results, it sacrifices healthy pulmonary tissues, and it may cause accidents. Alcoholization of the nerve has some of the same disadvantages, but its effects are only temporary. The author feels that alcoholization has the advantage of avoiding the mechanical trauma produced by phrenicectomy and of allowing a tentative trial of the effect instead of a final irreversible one. He feels, therefore, that alcoholization of the phrenic nerve is usually preferable to phrenicectomy in cases in which pneumothorax is inadvisable. Ambulatory treatment is of course wholly inadvisable.

Presse Médicale, Paris

44: 41-64 (Jan. 8) 1936

Blood Polypeptides in Cancer. P. Duval, J.-C. Roux and Geiffon.—p. 41.
*Cryptoleukemias. P. Émile-Weil, P. Isch-Wall and Mme. S. Perlès.—p. 41.
Osteitis Deformans of Paget and Traumatism. J.-A. Lièvre.—p. 45.
*Measure of Speed of Circulation Applied to Evolution and Therapy of Cardiopathies. R. Godel and C. Chéhale.—p. 48.
Some Remarks on Bony Pegging of Diaphyseal Fractures. H. Laffitte.—p. 51.

Cryptoleukemias.—Emile-Weil and his co-workers define as cryptoleukemias the hyperplastic blood processes that are not characterized by the appearance of the abnormal cells in the blood stream. The white blood picture thus remains quantitatively and qualitatively normal. The routine diagnostic puncture of the spleen in all cases of splenomegaly throws considerable light on the blood diagnosis of this nature. Three forms of cryptoleukemia can be differentiated in this way. The most common are the lymphatic cryptoleukemias. Myeloid cryptoleukemias can also be identified. Finally leukoblastic or acute cryptoleukemias sometimes occur. The clinical recognition of these forms is now possible by means of splenic puncture. The nature of the splenomegaly, the prognosis of the disease and the speed of evolution are largely clarified. Dangers of mistaken therapeutics are also avoided and often lead to roentgenotherapy.

Speed of Circulation and Treatment of Heart Disease.—Godel and Chéhale report a practically simple method of measuring the speed of circulation and the value of these measurements in following the course of heart disease. The principle of the method consists in noting the time in seconds that elapses between the moment of injection of purified ether and sodium dehydrocholate in the arm vein and the time when the first substance is noticed in the pulmonary air and the second in the lingual mucosa as a bitter taste. The first time depends on the speed of circulation in the segment corresponding to the activity of the right ventricle; the second corresponds to the activity of the left cardiac cavities. The injection should be made under basal conditions and after fasting for at least six hours. The patient must be told what sensations to expect and to note the exact time when they occur. The time is noted with a stop-watch. The normal relation of the two phases was worked out on about 100 normal persons and was found to be about equal. Every change in the relationship is abnormal and must be considered to indicate a pathologic state. Usually cardiac insufficiency is reflected by a prolongation of the circulation time (lengthening of the time of the test). Sometimes this is due to one segment, and sometimes the other or both may be affected. The test shows changes in equilibrium between the two segments and thus allows the course of functional changes due to therapeutic measures to be followed with greater accuracy.

Riforma Medica, Naples

89: 105-136 (Jan. 25) 1936

Metabolism of Retina. G. Lo Cascio.—p. 107.
Anisocytosis of Neutrophil Leukocytes in Malignant Tumors. A. Barascintti.—p. 110.
*Intratracheal Injections of Water in Treatment of Tuberculous Hemoptysis. G. Pennetti.—p. 114.

Intratracheal Injections of Water in Treatment of Tuberculous Hemoptysis.—Pennetti in 1933 reported results which he obtained in the treatment of tuberculous hemoptysis by supraglottic intratracheal injections of distilled water. Hemoptysis was controlled after one or several injections in twenty patients out of a group of tuberculous patients in whom the hemorrhages were not controlled by the hemostatics commonly used. The author interpreted the results of the treatment as due to a reflex caused by the entrance of the fluid into the respiratory tract, in which phenomenon, however, the nature of the liquid injected does not interfere. The author at this time discusses two articles published after his and related to his work. D'Angelo tried Pennetti's method in twenty cases of tuberculous hemoptysis of different intensities and came to the following conclusions: 1. The hemostatic action of distilled water is immediate and permanent in mild forms of hemoptysis, less efficient in types of medium intensity and negative in grave forms which, however, are controlled by intratracheal injections of epinephrine. 2. The therapeutic effect of the injections is due to a reflex (Pennetti's) originated by the introduction of a liquid into the respiratory tract and to another reflex of local vasoconstriction due to the action of epinephrine. Pennetti verified his previous results in a new series of eighteen cases and concluded that (1) the more or less prompt hemostatic action of the injections of distilled water and the duration of hemostasis after the injections are not related to the intensity of hemoptysis and (2) generally in grave hemoptysis satisfactory hemostatic results are obtained, but, when water injections fail, epinephrine injections fail also. The second article discussed by Pennetti is by Ponticaccia, who said "Pinnetti, Ciannella and D'Angelo have confirmed my statements and sometimes have succeeded in checking hemoptysis by intratracheal injections of distilled water." Pennetti says that both statements are wrong. His work dates from 1925 to 1933 and neither before nor since did he know of any work of Ponticaccia related to this matter. It is possible, however, that Ponticaccia may have practiced the method without reporting it. As to the statement that sometimes hemoptysis is checked with water injections, the contrary is exactly what happened; that is, only in rare cases is hemoptysis not controlled by intratracheal injections. The author gives these explanations to defend the paternity and value of the method, the rapidity of which in controlling hemoptysis surpasses all previously known hemostatic methods.

Prensa Médica Argentina, Buenos Aires

23: 291-354 (Jan. 29) 1936. Partial Index

Evolution of Tuberculosis in Diabetes: Report of Case. J. Valdés Lambea and M. de Castro Hernando.—p. 291.
Parathyroid Extract and Calcium in Tuberculous Hemoptysis. R. Denis, A. P. Headdass and O. Garré.—p. 299.
Aneurysm of Left Auricle: Case. A. O. Raffo and A. Ruiz Moreno.—p. 305.
Meta-Encephalitic Decerebrate Rigidity with Sequel of Right Pyramido-Extrapyramidal Infantile Hemiplegia: Case. B. B. Spota.—p. 307.
*Pathogenesis and Treatment of Hyperthyroid Diarrhea. A. Richieri.—p. 310.

Hyperthyroid Diarrhea.—Richieri says that increase of the thyroid secretion in the intestine, alterations of the pancreas or the intestinal absorption, vagotony or existence of hypochlorhydria and anachlorhydria are the most common hypotheses given in the pathogenesis of hyperthyroid diarrhea. The most important pathogenic factor is vagotony produced by direct stimulation of the vagus by the hyperfunctioning thyroids. The modifications of the glandular secretions, especially the gastric, have a secondary influence in the production of diarrhea. The symptomatic treatment consists in the administration of epinephrine (two or three daily enemas of 15 or 20 drops of epinephrine in 200 cc. of water), atropine (0.0005 or 0.001 Gm. daily) and belladonna (15 drops orally two or three times a day). Opiates may be used in emergencies. The two essential causal treatments are roentgen irradiations and surgery of the thyroids. The medical treatment is indicated in certain cases as coadjuvant to roentgen and surgical treatments. Iodine is indispensable. The principal indications of the iodine treatment are emergencies in hyperthyroidism and the preoperative care of the patient. The most favorable time for performance of the operation is when the figures of the basal metabolism are almost normal. Other satisfactory medical treatments are 3.5 di-iodo-4-oxyphenylalanine in a daily dose of from 0.01 to 0.03 Gm., quinine or quinidine from 0.6 to 1 Gm., the sedative drugs of the nervous system and ergotamine tartrate (gynergen). Antithyroid serum does not produce constant results. Exophthalmic and toxic goiters should be differentiated for therapeutic purposes. Roentgen irradiations give satisfactory results in latent and larval forms of hyperthyroidism and exophthalmic goiter and does not have the possible dangers of thyroidectomy. Richieri advises a combined medical and roentgen treatment in exophthalmic goiter and subtotal thyroidectomy (after preoperatory care of the patient by rest, administration of iodine and 3.5 di-iodo-4-oxyphenylalanine) in (1) exophthalmic goiter after the failure of medical and roentgen treatments, (2) exophthalmic goiter with compression and (3) toxic goiter.

Deutsche Zeitschrift für Nervenheilkunde, Berlin

139: 245-313 (Feb. 12) 1936

Serology of Multiple Sclerosis. H. Ahringsmann.—p. 245.
Problem of Diffuse Sclerosis (Diffuse Glioblastosis of Central Nervous System). J. Scheinker.—p. 253.
Surface Tension in Normal and Pathologic Cerebrospinal Fluid. O. Künsel.—p. 265.
*Late Posttraumatic Epilepsy. W. C. Meyer.—p. 278.
Central Respiratory Paralysis and Its Treatment by Means of the "Biomotor." B. Hohberg.—p. 294.
Aseptic Lymphocytic Meningitis After Suboccipital Puncture. H. Kuhn.—p. 300.

Late Posttraumatic Epilepsy.—Meyer asserts that severe cranial traumas always remain a source of further complications, even if the direct results take a favorable course. This applies particularly to shot injuries of the head, as proved in many who were injured during the war. The author describes thirty-three cases of late posttraumatic epilepsy in which the latent period exceeded eight years. These cases of cranial injuries proved that, as time advances, the manifestations of a hypersensitivity of the vascular nervous system, as symptom of a premature aging process, become more noticeable. The appearance of late epilepsy is preceded for a number of years by attacks of vertigo, which constantly increase up to the time of the first epileptic attack. The localization of the trauma seems to be of some importance, for twenty-one of the thirty-three patients observed by the author had had injuries of the frontal brain. The motor region, which seems to be of primary importance for early epilepsy, assumes only a minor rôle in the author's material. It was involved in only three of the cases. In five cases only the orbit had apparently been injured, but late epilepsy developed here too and it could be shown that the base of the frontal brain had also been injured; thus these cases of epilepsy could likewise be explained as posttraumatic.

Ugeskrift for Læger, Copenhagen

98: 45-66 (Jan. 16) 1936

*Peculiar Epidemic in Roskilde in December 1935. E. J. Henningsen.—p. 45.
Agranulocytosis with Recovery After Liver Extract (Eshepa) Parenterally: Two Cases. N. R. Christoffersen and E. Polack.—p. 48.

Peculiar Epidemic in Roskilde in December 1935.—The disorder in Roskilde was characterized by sudden onset with nausea, vomiting, diarrhea, headache and dizziness, sometimes fever, brief duration (in three fourths of the cases forty-eight hours at the most) and lack of complications and of grave sequels. Some cases were mild, others violent. The epidemic developed rapidly, lasted about two and a half weeks and affected 40 per cent of the inhabitants, of all ages, in the district examined; the sexes seemed equally susceptible. In Henningsen's opinion the ailment is an independent infectious disorder readily transmitted by an unknown agent, and the various symptoms may depend on disturbances of certain parts of the nervous system. Rischel's "epidemic nausea" (*Ugesk. f. Læger* 97:1285 [Dec. 19] 1935) is believed to be identical.

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